gulf coast *conference*

PROGRAM

120th Meeting

Oct. 14-15, 2025

Moody Gardens Convention Center
Galveston, TX
GulfCoastConference.com

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Table of Contents

Gulf Coast Conference
Oct 13-16, 2025
Venue: Moody Gardens Convention Center
One Hope Blvd
Galveston, Texas, 77554

2025 Conference Schedule

Monday, October 13, 2025
8:30 AM – 4:30 PM – ASTM Course # 100
Understanding Test Method Precision, Bias, ILS Design, Statistical Quality Control Charts
9:30 AM Gulf Golf Shotgun Start
6:00 PM – 9:00 PM – Golf Awards Banquet
Moody Gardens Hotel – Moody Ballroom

Tuesday, October 14, 2025
8:00 AM – 5:00 PM - Technical Sessions, Posters & Exhibits, New Product Showcase
10:00 AM – 11:00 AM – "**Keynote Speaker**"
***Petr Vozka* - California State University, Los Angeles**
Plastic Waste Measurements: How Can GC×GC Decode Complexity in Pyrolysis Oils and Microplastics
3:30 PM – 5:00 PM – Meet & Mingle – Exhibit Hall Center

Wednesday, October 15, 2025
8:00 AM – 5:00 PM - Technical Sessions, Posters & Exhibits, New Product Showcase
10:00 AM – 11:00 AM – "**Keynote Speaker**"
***Diti Sood* - Bolo AI**
GenAI for Energy & Chemicals: From Data to Real-Time Decisions
3:00 PM – 5:00 PM – Closing Ceremonies– Exhibit Hall Center

Thursday, October 16, 2025
9:00 AM – 4:00 PM – Training Course Abstract # 137
Analytical Training - Bridging the gap between Chemists and Process Engineers

Salads, Soups, Sandwiches: Located In South Lobby 11:30 AM – 2:00 PM
It's A Wrap Food Truck: Located Outside Registration

GCC 2025 Technical Advisory Committee

- **Chairperson**
- **Jean-Francois Borny, Lummus Technology**
- Frank Di Sanzo ExxonMobil (Retired)
- Poulami Dutta – Dow Chemical
- George Gonzalez – Agilent
- Rudy Haas, HORIBA Instruments, Inc.
- Jamie Nossal, Imperative Chemical Partners
- Jonathan Richter, Baytek International
- Raj Shah, Koehler Instruments
- Bill Winniford, Dow Chemical (Retired)

GCC Mission Statement

The Gulf Coast Conference is a non-profit organization oriented toward the education and advancement of knowledge of Chemical Analysis Technology associated with the Petrochemical, Refining, and Environmental fields, and will forward this goal through annual technical meetings, regular communications, and training courses focused on these fields.

Gulf Coast Conference, 13921 Hwy 105 W, # 163, Conroe, TX 77304
Ph: 281-256-8807
www.GulfCoastConference.com

Notes from the rolltop……

“Science is the greatest adventure of our time.”

Welcome to the **Gulf Coast Conference**, where curiosity meets collaboration, and innovation takes center stage.

Each year, this gathering brings together the brightest minds in analytical science—from seasoned researchers and lab managers to emerging scientists and students—united by a shared passion for discovery.

This isn’t just a conference; it’s a celebration of the power of data, the elegance of instrumentation, and the relentless pursuit of answers.

Whether you're here to chase chromatograms, decode spectral mysteries, or simply bask in the glow of brilliant minds and buzzing instruments, you’ve landed in the right place.

The GCC is where ideas spark, partnerships form, and breakthroughs begin.

This year’s program is packed with opportunities to learn, connect, and grow. From cutting-edge technical sessions and dynamic symposia to hands-on workshops and interactive exhibits, there’s something here for everyone—whether you're a veteran of the lab or just beginning your scientific journey.

We’re especially excited to feature two outstanding keynote speakers this year that highlight relevant topics in our times:

- **Dr. Petr Vozka**, California State University, Los Angeles, will highlight Tuesday’s sessions with *“Plastic Waste Measurements: How Can GC×GC Decode Complexity in Pyrolysis Oils and Microplastics”*.
- **Diti Sood**, Bolo AI, will headline Wednesday’s keynote with *“GenAI for Energy & Chemicals: From Data to Real-Time Decisions”*

In addition, we will recognize *GCC 2025 Presenter of the Year* on Wednesday afternoon

We encourage you to dive in. Ask questions. Share your insights. Meet someone new. Explore a technology you’ve never seen before. And most importantly—have fun while doing it. Science thrives on curiosity, and this week is your chance to let it lead the way.

Thank you for being part of the GCC community. Your presence enriches this experience, and we’re excited to see what discoveries, collaborations, and inspirations will emerge over the coming days.

Warm regards,
Jean-Francois Borny, Lummus Technology
Gulf Coast Conference
Technical Advisory Committee Chairperson

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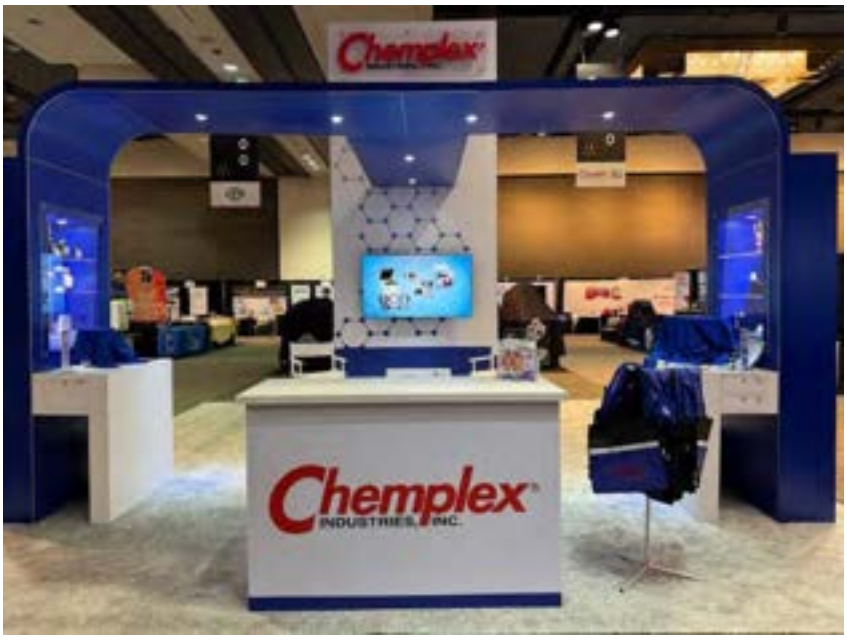

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Keynote Speakers

Petr Vozka

Associate Professor of Chemistry and Biochemistry
National High Magnetic Field Laboratory

Plastic Waste Measurements: How Can GC×GC Decode Complexity in Pyrolysis Oils and Microplastics - Abstract # 280

Petr Vozka is an associate professor of chemistry and biochemistry at California State University, Los Angeles, where he directs the Complex Chemical Composition Analysis Laboratory (C^3AL). He holds a B.S. in Chemistry and Chemical Technologies, an M.S. in Chemistry and Technology of Fuels and Environment from the University of Chemistry and Technology, Prague (UCT Prague), and a Ph.D. from Purdue University specializing in the analytical chemistry of liquid transportation fuels. His group develops and applies state-of-the-art methodologies, particularly comprehensive two-dimensional gas chromatography (GC×GC) coupled with mass spectrometry, to resolve the composition of challenging chemical mixtures. Application areas span alternative fuels, microplastics, and forensic matrices such as fingerprints. He has authored peer-reviewed publications that contribute to the measurement science underpinning fuels and environmental systems. He is a committee member of the Multidimensional Chromatography Workshop (MDCW) and was named a Rising Star in Separation Science by LCGC in 2023.

Tuesday, October 14th Exhibit Hall A4 10:00 AM - 11:00 AM

Diti Sood

CEO
Bolo AI

GenAI for Energy & Chemicals: From Data to Real-Time Decisions - Abstract #266

Diti Sood is Founder and CEO of Bolo AI, where she's leveraging over a decade of energy industry experience to build AI solutions that make daily work faster, safer, and better for heavy industry workers. Her deep understanding of the industry's challenges comes from starting her career in the field as an engineer with Schlumberger (SLB) in the Middle East. This hands-on experience with the realities of energy operations later proved invaluable when she transitioned to tech at C3 AI, where she built and scaled the company's Oil & Gas business from startup to their top performing vertical before serving as Head of Strategy. This unique combination of field experience and AI product expertise positions her to solve real problems that energy workers face every day, problems she's experienced firsthand. Diti holds an MBA from Harvard Business School and a B.Tech in Civil Engineering from IIT Guwahati. She lives in the San Francisco Bay Area with her husband, their 4-year-old daughter, and their dog.

Wednesday, October 15th Exhibit Hall A4 10:00 AM - 11:00 AM

Elemental Analyzers for Crudes to Final Products

Want fast, affordable elemental analysis without the hassle? Rigaku EDXRF delivers rapid, reliable results for petroleum streams and samples across upstream, midstream, and downstream operations. From refineries and pipelines to blending, contract labs, and R&D, our benchtop and on-line systems help cut costs and speed decisions. See Rigaku EDXRF in action at **Booth 102.**

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Monday Class

Alex T. Lau

ASTM Instructor, ASTM
Abstract #: 100

Understanding Test Method Precision, Bias, ILS Design, Statistical Quality Control Charts

Alex T. Lau is the Chairman of ASTM D02.94 Subcommittee on Quality Assurance and Statistics, D02.01.0B on Precision, and Vice Chair of Subcommittee D02.25 on Validation of Process Stream Analyzer Systems. He has over 40 years experience in Petroleum Refining Industry. An ASTM International member since 1990, he is also an active member of Committees E11 on Quality and Statistics. He retired from Imperial Oil, Canada (an ExxonMobil affiliate), and formed his own consulting company (TCL-Consulting). His career focus specialized in gasoline and diesel fuel blending, direct blend to pipeline and ships, on-line process analyzer applications, statistical techniques for quality assurance and process improvement, development and implementation of industry standards.
He is the recipient of the ASTM International Award of Merit, ASTM D02 Scroll of Achievement, and several Awards of Excellence. Lau was cited "for outstanding contributions in Committee D02 on Petroleum Products and Lubricants and Coordinating Subcommittee D02.94 on Quality Assurance and Statistics toward standards development, both as an individual contributor and leader."
He graduated from the University of Toronto with a Bachelor's degree in Applied Science and Engineering Physics. Outside of ASTM International, Lau is a member of the Professional Engineers of Ontario (PEO) and the American Society for Quality (ASQ). He is a registered Professional Engineer in Ontario, Canada, and an ASQ Certified Quality Engineer. He is also the Convener of ISO TC28/WG2 on Statistics.

NOT INCLUDED IN CONFERENCE REGISTRATION - MUST REGISTER SEPARATELY

Monday, October 13th **Ivy 2 (Moody Gardens Hotel)** **8:30 AM - 4:30 PM**

Thursday Class

Jean-Francois Borny

Owner, BASIC
Abstract #137

Analytical Training - Bridging the Gap Between Chemists and Process Engineers

Jean-Francois Borny graduated from Texas A&M University with degrees in Chemistry and Computer Science. He has been in the analytical chemistry field for over 35 years, working in refineries, instrument manufacturers, commercial labs, and pharmaceutical and petrochemical companies. Jean-Francois serves as the Scientific Chair for the GCC Technical Committee, Chair of ASTM D02.P, Chair of ASTM D02.93.2, and is the Global Analytical Services Senior Manager of Lummus Technology. As the Global Analytical Services Senior Manager at Lummus Technology, Jean-Francois travels worldwide presenting, training and setting up laboratories supporting the process technologies developed at Lummus Technology Research facilities in TX.

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Thursday, October 16th **Ivy 2 (Moody Gardens Hotel)** **9:00 AM - 4:00 PM**

TUESDAY

Applications – Environmental – Iris Room

222	Process Analyzers for Carbon Capture Utilization and Sequestration (CCUS) Control and Compliance	8:00
147	Important Considerations for Py-GC/MS Analysis of Microplastics on Particulate Matter Filters	8:25
171	Environmentally Friendly Solid Phase Extraction Approach for Multiple Classes of Organic Pollutants Following EPA 8270E	8:45
176	Lessons learned in Setting Up EPA 1633 for PFAS Analysis in Leachate Samples	9:15
170	Forensic Assessment of Residual Oil from the Pearl Harbor Shipwreck	9:35
195	Advancements in Combustion-Ion Chromatography: Efficiency, Sensitivity, and Scope	12:00
185	Determination of sulfur and nitrogen in Waste Pyrolysis Plastic Oil (WPPO) using UVF & Chemiluminescence technology	12:40

Applications - Field analysis – Iris Room

101	ASTM D8148 – Bringing Haze and Clarity Ratings into the Modern Age	1:25
144	The Data-Driven Plant: How AI Transforms Process Analytics	1:55
214	Phosgene Analysis in Ambient Air – Theoretical to Field Application	2:25

Applications – Petroleum – Daffodil Room

174	Expanding ASTM D5623 to include heavier sulfur species	1:15
231	Ion Chromatography Applications for the Energy Market – Robust, Sensitive and Flexible Solutions	1:35

Applications – Petroleum – Hibiscus Room

182	Extending Insights to High-Boiling Fractions by Correlating CHNSO Composition with Oxygenates in Low-Boiling WPPOs	9:30

Applications – Petroleum – Iris Room

184	From Hours to Seconds - Process Raman is Revolutionizing Sour Water Monitoring	2:50

Applications – Petroleum – Wisteria Room

225	Biogenic carbon content measurement from solid and liquid samples	1:00
145	Analysis of Elemental Impurities in Diesel by the New PlasmaQuant 9200 HR ICP-OES According to ASTM D7111-16	1:20
158	Unlocking Standardized Combustion Ion Chromatography Methods for Petrochemical Quality Assurance	2:00
177	A New Way to Measure Octane: Lab & Process with CVCC Autoignition Technology	2:45
240	TOC Analysis Under Pressure: Tackling Salinity and Particulate Challenges in Petrochemical Applications	3:05
118	Advancements in EPH Fractionation: Overcoming Challenges and Enhancing Efficiency	8:00
122	Cyanides in the Cracking Products, Organics in the Boiler Water, and Moisture in the Feedstocks—How Can Xylem Help?	8:30
131	Analysis of Several Challenging Elements in Petroleum Products by ICP-MS	9:30
157	Advancing Corrosion Management through IC Analysis of Amines	12:00
132	Analysis of Nanoparticles in Organic Solvents by Single Particle ICP-MS with a Dynamic Reaction Cell	12:30

Chromatography - Gas chromatography – Tulip Room

208	Quantitating Aromatics in Jet Fuel –the ASTM Multi-Method Study Outcomes	8:00
173	GC Column Selection – Tips and Tricks that are NOT Rocket Science	8:25
217	Simple and Effective Measurement of Water Content in Fuels Using GC-LUMA™	9:15

Chromatography - Mass spectrometry – Tulip Room

141	Characterization of highly dispersed polymers and their end groups by combining SEC/MALDI-TOFMS and Kendrick mass defect analysis	8:55

Chromatography - Supercritical fluid chromatography – Tulip Room

229	D2425-Supercritical Fluid Chromatography with Flame Ionization Detection Coupled to a Quadrupole Mass Spectrometer (SFC-FID-MS)	9:35

Informatics - Other Software – Tulip Room

148	Diviner: A Semi-AutoML Approach to Collaborative Model Building	12:00

Spectroscopy – Raman – Tulip Room

183	On-line Raman Gas Analysis in Syngas and Hydrogen Production	2:50

Quality Control - QA/QC – Bluebonnet Room

213	How to convert your ISO 9001- QMS into a Profitability Engine	2:15

Quality Control – Tulip Room

241	Why 30 Points for SQC?	12:45
242	Why Ordinary Linear Regression should not be used to develop a correlation between test methods	1:30

WEDNESDAY

Applications – Petroleum – Daffodil Room

123	Delving into Cyanide and TOC Analysis for Refinery and Plant Applications: Cracking and Boilers.	2:00

Chromatography - Gas chromatography – Bluebonnet Room

207	GCVUV Simulated Distillation	1:00
209	GCVUV Methods – Future Forward	1:25
169	Selection and Use of Wasson-ECE Small Devices and Enhancements for Chromatography Optimization	1:50
215	Rethinking Routine: Practical Strategies to Boost GC Productivity	2:20
216	Head-to-head comparison of DHA to ASTM D8369 Verified Hydrocarbon Analysis (VHA) Using Helium and Hydrogen Carrier Gases.	2:50
103	Adding Repeatability and Reliability in Chromatography	8:00
124	Cryogenic Milling as a Key Sample Preparation Step for Microplastic Analysis in Water via Pyrolysis-GC/MS	8:25
134	Quartz for SCD Combustion Tubes	8:45
163	New Revolutionary Process GC with Capillary Chromatography	9:05
175	Handling sampling issues on Gas Chromatography (GC) High Temperature Simulated Distillation	12:00
181	Polypropylene - Understanding the Effects of Impurities in Propylene Feed and the Analysis of these Components	12:20
202	Fit-for-purpose chromatography in petrochemical monitoring and characterization	12:40

Chromatography - Gas chromatography – Wisteria Room

243	Learning the Tips and Tricks of Sample Introductory Techniques such as Headspace and Thermal Desorption for Gas Chromatography	8:00
247	Navigating the Transition from Helium as a Carrier Gas	8:40

Chromatography – GCxGC – Wisteria Room

212	"Now We're Cooking with Gas!" Pyrolysis GCxGC-MS of Polyolefins.	9:05
235	Full Flow Ahead: Flow-Modulated GCxGC Without Splitting on a Quadrupole Mass Spectrometer	9:25

Chromatography - Liquid chromatography – Wisteria Room

150	Automated Analysis of Diene Value in Pyrolysis Oil, Gasoline & Naphtha in 5 minutes	9:50

Informatics Other Software – Hibiscus Room

273	Laboratory Digital Maturity: Readiness, Roadblocks, and Strategic Opportunities	9:00

Other Topics – Wisteria Room

153	Advancing Sample Preparation for Elemental Analysis: Strategies for Handling Challenging Matrices	12:00
161	From Connections to Impact: Maximizing Value at Scientific Conferences	12:25
155	Direct Mercury Analysis in Complex Petrochemical Matrices: A Fast, Reliable Alternative to CVAA and ICP	12:45
154	Optimizing the Total Workflow for Elemental Analysis in the Petrochemical Industry	1:10
178	Shear Happens: Understanding instrumental limitations in rheology testing.	2:20

Physical Measurements – Titration – Iris Room

156	Water analysis in petrochemicals – the Karl Fischer Oven advantage	8:00
226	New requirements in asphaltene stability and compatibility measurement of crude oil and marine fuel oils	8:45

Quality Control – Hibiscus Room

272	Records and Security	12:00

Quality Control – Orchid Room

105	Exploring Uncertainties of Reference Materials	8:00
117	Moisture and Solids Determination: Applications Based on Sample Characterization	8:20
146	Unlocking Maximum Value Across the Catalyst Lifecycle	9:05

Spectroscopy – Raman – Orchid Room

102	Streamlining Spectroscopic Calibration	11:45

Spectroscopy UV-VIS, X Ray - Iris Room

221	Critical Considerations for Successful In Situ Liquid Process Sampling for Spectroscopy	9:05
152	Advances in High-Performance WDXRF for Petrochemical Applications	9:30

SEMINAR – KEYNOTE – EXHIBIT HALL A4

279	Seminar	Quantifying Olefins in Waste Plastic Pyrolysis Oils and Distillate Fractions via GC×GC–FID with Targeted Derivatization	10:00

TRACE METALS ANALYSIS SEMINAR - BLUEBONNET

257	Seminar	Reliable Elemental Analysis of Crude Oil using the New Analytik Jena's PlasmaQuant 9200 High Resolution ICP-OES	8:00
258	Seminar	Clean Digestion: Microwave Solutions for Complex Matrices	8:30
259	Seminar	Dedicated, High-Performance Sample Introduction Systems (HP-SIS) for ICP-OES	9:00
260	Seminar	Contamination Challenges in ICP Trace Metals Analysis: Key Considerations for Accurate Results	9:30
		KEYNOTE	10:00
		LUNCH	11:00
261	Seminar	Improving Biofuel Production Through Feedstock Screening by ICP-OES	11:45
262	Seminar	Routine Trace Metal Analysis of Oils, Fuels and Other Challenging Samples with a Novel N2 ICP-OES System	12:15
263	Seminar	Advancing Trace Elemental Analysis with SPECTRO ICP-OES and ICP-MS Instrumentation	12:45
264	Seminar	APS-7450V AUTOMATED SAMPLE PREP STATION TELEDYNE CETAC TECHNOLOGY	1:15
265	Seminar	Optimizing volatile organic analysis using the Thermo Scientific iCAP PRO ICP-OES and IsoMist temperature controlled spray chamber	1:45

SHIMADZU SEMINAR – DAFFODIL ROOM

236	Seminar	ASTM D1840 & D6258 – Easily and Confidently Quantify Aromatics and Dyes in Fuels with One UV-Vis Spectrometer	8:00
230	Seminar	A Novel GC-Combustion-MS with Isotopic Labelling Technique for the Analysis of Oxygenates in Fuels and Biofeedstocks	8:20
233	Seminar	Advances in Software for DHA and PONA Analysis – Improved Compound Identification for Simplified Workflows.	8:50
232	Seminar	ASTM D8110: Determination of Trace Elements in Petroleum Products Using ICP-MS	9:20
		KEYNOTE	10:00
		LUNCH	11:00
234	Seminar	Total Organic Carbon and Total Nitrogen: Hardware Options for Maximum Performance	12:00
238	Seminar	Quantifying microplastics in Texas bays and estuaries using pyrolysis GC-MS	12:45

AGILENT SEMINAR – FLORAL HALL A1

190	Paper	ASTM D5769 Using the Agilent 8850 GC and 5977C GC/MSD with Hydrogen Carrier – Speed Meets Small Formfactor	8:00 AM
192	Paper	Optimizing Elemental Analysis of Oils and Organic Solvents by Smart ICP-OES	8:20 AM
189	Paper	How to Choose Proper FTIR Spectroscopic Techniques to Analyze Petroleum Products	8:50 AM
199	Paper	Low Level, ppb, Determination in Refined Oils using the Agilent VDV ICP System and Muli-Variate Matix Correction	9:20 AM
		KEYNOTE	10:00 AM
		LUNCH	
198	Paper	Analysis for Impurities in Fuel Cell Grade Hydrogen by Gas Chromatography	12:30 PM
188	Paper	Next Generation Lab Operations using AI and Machine Learning	1:00 AM

WASTE PLASTIC PYROLYSIS OIL SYMPOSIUM – FLORAL HALL A2

160	Paper	Waste Plastic Process Oil Analytical Advances Symposium	8:45
228	Paper	Supercritical Fluid Chromatography with Flame Ionization Detection (SFC-FID) - Providing Analytical Solutions for the Fuel Product	9:05
197	Paper	Advancing Fluorine Quantification in WPPO: A Novel Combustion-AAS Approach	9:25
		KEYNOTE	10:00

172	Paper	Technical Update of ASTM D8519, the First Standard Test Method Created for Analyzing Hydrocarbons in Waste Plastic Process Oils	11:10
204	Paper	Oxygen & CHNS Elemental Analysis of Waste Plastic Pyrolysis Oil: Challenges, Solutions, and Standardization	11:35
		LUNCH	
187	Paper	Nontarget Analysis of WPPO by GCxGC-HRTOFMS	1:10
279	Paper	Quantifying Olefins in Waste Plastic Pyrolysis Oils and Distillate Fractions via GC×GC–FID with Targeted Derivatization	1:40
239	Paper	Square Pegs in Round Holes: Challenges in WPPO Analysis in the Commercial Market	2:10
278	Paper	Interrogating the Composition of Mixed Plastic Waste Pyrolysis Oils using Supercritical Fluid and Gas Chromatography	2:35

TRAINING COURSES

		TULIP ROOM	
227	Training Course	Varied Introduction of Polymers to a GC-MS using a Multi-functional Pyrolysis System	2:15
		ORCHID ROOM	
104	Training Course	Gas Chromatography: Beginner to Expert in 4 hours!	8:00
		HIBISCUS ROOM	
136	Training Course	Polymer Chromatography: Beyond MW and Polydispersity with Advanced Detection GPC/SEC	8:00
		WISTERIA ROOM	
168	Training Course	Leading the Lab: A Science-Driven Approach to Leadership Styles and Managing Laboratory Teams	1:35

ThermoFisher SCIENTIFIC SEMINAR

180	Seminar	Process Raman AIO	11:00
		LUNCH	
164	Seminar	FT-IR Spectral Interpretation and Problem Solving	1:00
167	Workshop	Omnic and Paradigm Software Tutorial for IR/Raman Spectroscopy Software	2:00

SEMINAR – KEYNOTE – EXHIBIT HALL A4

266	Seminar	GenAI for Energy & Chemicals: From Data to Real-Time Decisions	10:00

USER GROUPS & WORKSHOPS – IRIS ROOM

218	User Group	Automating your Current QMS (ISO, API, AS, IATF and Others)	12:15
116	Workshop	Identification & Quantification of Microplastics Using Pyrolysis-GC/MS	1:15

ThermoFisher SCIENTIFIC SEMINAR – ORCHID ROOM

179	Seminar	Implementing Raman Spectroscopy into Process Environments	12:10
166	Seminar	FTIR /Raman Theory and Sample Handling	1:10
267	Seminar	Process Raman AIO	2:10

ANTON PAAR SEMINAR – DAFFODIL ROOM

255	Paper	FTIR for FAME in Diesel Blends & Used Oils	8:00
256	Paper	Digestion of Petroleum Samples for Element Analysis with ICP	8:30
250	Paper	Flash Point Testing: Safety in Your Hands with ASTM D56, D93, and D92	9:00
252	Paper	Faster Polymer Analysis: Molecular weight in one measurement	9:30
		KEYNOTE	10:00
		LUNCH	11:00
251	Paper	Lubricant Analysis, Evolved: Smarter Oxidation and Cold-Flow Testing with ASTM D8206 and D2983	12:00
253	Paper	Move beyond D445 with the Simplicity of D7042	12:30
254	Paper	Remove the bottleneck! How D7525 can speed up oxidation testing in D4814 gasoline testing	1:00
249	Paper	Maintaining the Spark: Ignitor Care for ASTM D93 & D56 Units	1:30

WORKSHOP - FLORAL HALL A2

245	Workshop	Driving Lab Efficiency, Reliability, and Cost Savings with Advanced ICP-OES and ICP-MS Nebulizers	8:30

SEMINAR – FLORAL HALL A1

140	Seminar	Demystifying the Black Box of AI: Recent Advancements in the Manufacturing Industry with Lou Zhang	11:30

AGILENT SEMINAR – FLORAL HALL A1

193	Paper	Fast, Reliable and Versatile – Can Agilent Micro GC 990 Really Deliver It All?	8:00
194	Paper	Sensitive Detection of Volatile Fatty Acids in High Ionic Water Matrix using Ion Chromatography hyphenated with Single Quad Mass	8:30
191	Paper	Achieving Superior Chromatographic Data in the GC/SCD Analysis of ASTM D5623-Relevant Sulfur Compounds: Best Practices and Insight	9:00

PFAS SYMPOSIUM: FROM REGULATIONS TO MEASUREMENTS OF PFAS IN AIR, WATER, BIOSOLIDS – TULIP ROOM

270	Paper	Overview of PFAS Testing and Regulations	8:00
282	Paper	An Exploration of Sample Prep Techniques for Non-targeted Analysis of PFAS using Combustion Ion Chromatography	8:30
276	Paper	PFAS in Air: EPA OTM Methods	9:00
271	Paper	Streamlined PFAS Analysis in Biosolids, Tissue, Soil by LC-MS/MS	9:30
		KEYNOTE	10:00
		LUNCH	11:00
268	Paper	The Sticky Problem of the Forever Chemicals – New Challenges in Environmental Exposome	12:00
274	Paper	Defluorination and derivatization of fluoropolymers for determination of total organic fluorine in polyolefin resins by gas chromatography	12:30
269	Paper	PFAS in Air: Regulatory and Standards Landscape, Method Development, and Workflow Guidance	1:00
		Break	1:30
277	Paper	Laboratory Informatics for PFAS Testing: SLIMS	2:00
275	Paper	PFAS in Biosolids: Regulations and Testing Methods	2:30

PRESENTATIONS BY ROOM & TIME TUESDAY

IRIS ROOM

Abstract #	Title	Start Time
222	Process Analyzers for Carbon Capture Utilization and Sequestration (CCUS) Control and Compliance	8:00
147	Important Considerations for Py-GC/MS Analysis of Microplastics on Particulate Matter Filters	8:25
171	Environmentally Friendly Solid Phase Extraction Approach for Multiple Classes of Organic Pollutants Following EPA 8270E	8:45
176	Lessons learned in Setting Up EPA 1633 for PFAS Analysis in Leachate Samples	9:15
170	Forensic Assessment of Residual Oil from the Pearl Harbor Shipwreck	9:35
195	Advancements in Combustion-Ion Chromatography: Efficiency, Sensitivity, and Scope	12:00
185	Determination of sulfur and nitrogen in Waste Pyrolysis Plastic Oil (WPPO) using UVF & Chemiluminescence technology	12:40
101	ASTM D8148 – Bringing Haze and Clarity Ratings into the Modern Age	1:25
144	The Data-Driven Plant: How AI Transforms Process Analytics	1:55
214	Phosgene Analysis in Ambient Air – Theoretical to Field Application	2:25
184	From Hours to Seconds - Process Raman is Revolutionizing Sour Water Monitoring	2:50

WISTERIA ROOM

118	Advancements in EPH Fractionation: Overcoming Challenges and Enhancing Efficiency	8:00
122	Cyanides in the Cracking Products, Organics in the Boiler Water, and Moisture in the Feedstocks—How Can Xylem Help?	8:30
131	Analysis of Several Challenging Elements in Petroleum Products by ICP-MS	9:30
157	Advancing Corrosion Management through IC Analysis of Amines	12:00
132	Analysis of Nanoparticles in Organic Solvents by Single Particle ICP-MS with a Dynamic Reaction Cell	12:30
225	Biogenic carbon content measurement from solid and liquid samples	1:00
145	Analysis of Elemental Impurities in Diesel by the New PlasmaQuant 9200 HR ICP-OES According to ASTM D7111-16	1:20
158	Unlocking Standardized Combustion Ion Chromatography Methods for Petrochemical Quality Assurance	2:00
177	A New Way to Measure Octane: Lab & Process with CVCC Autoignition Technology	2:45
240	TOC Analysis Under Pressure: Tackling Salinity and Particulate Challenges in Petrochemical Applications	3:05

BLUEBONNET ROOM TRACE METALS SEMINAR

257	Reliable Elemental Analysis of Crude Oil using the New Analytik Jena's PlasmaQuant 9200 High Resolution ICP-OES	8:00
258	Clean Digestion: Microwave Solutions for Complex Matrices	8:30
259	Dedicated, High-Performance Sample Introduction Systems (HP-SIS) for ICP-OES	9:00
260	Contamination Challenges in ICP Trace Metals Analysis: Key Considerations for Accurate Results	9:30
261	Improving Biofuel Production Through Feedstock Screening by ICP-OES	11:45
262	Routine Trace Metal Analysis of Oils, Fuels and Other Challenging Samples with a Novel N2 ICP-OES System	12:15
263	Advancing Trace Elemental Analysis with SPECTRO ICP-OES and ICP-MS Instrumentation	12:45
264	APS-7450V AUTOMATED SAMPLE PREP STATION TELEDYNE CETAC TECHNOLOGY	1:15
265	Optimizing volatile organic analysis using the Thermo Scientific iCAP PRO ICP-OES and IsoMist temperature controlled spray chamber	1:45
213	How to convert your ISO 9001- QMS into a Profitability Engine	2:15

TULIP ROOM

208	Quantitating Aromatics in Jet Fuel –the ASTM Multi-Method Study Outcomes	8:00
173	GC Column Selection – Tips and Tricks that are NOT Rocket Science	8:25
141	Characterization of highly dispersed polymers and their end groups by combining SEC/MALDI-TOFMS and Kendrick mass defect analysis	8:55
217	Simple and Effective Measurement of Water Content in Fuels Using GC-LUMA™	9:15
229	D2425-Supercritical Fluid Chromatography with Flame Ionization Detection Coupled to a Quadrupole Mass Spectrometer (SFC-FID-MS)	9:35
148	Diviner: A Semi-AutoML Approach to Collaborative Model Building	12:00

241	Why 30 Points for SQC?	12:45
242	Why Ordinary Linear Regression should not be used to develop a correlation between test methods	1:30
227	Varied Introduction of Polymers to a GC-MS using a Multi-functional Pyrolysis System	2:15
183	On-line Raman Gas Analysis in Syngas and Hydrogen Production	2:50

ORCHID ROOM — AXION TRAINING COURSE

104	Gas Chromatography: Beginner to Expert in 4 hours!	8:00
104	Gas Chromatography: Beginner to Expert in 4 hours!	12:00

DAFFODIL ROOM — SHIMADZU SEMINAR

236	ASTM D1840 & D6258 – Easily and Confidently Quantify Aromatics and Dyes in Fuels with One UV-Vis Spectrometer	8:00
230	A Novel GC-Combustion-MS with Isotopic Labelling Technique for the Analysis of Oxygenates in Fuels and Biofeedstocks	8:20
233	Advances in Software for DHA and PONA Analysis – Improved Compound Identification for Simplified Workflows.	8:50
232	ASTM D8110: Determination of Trace Elements in Petroleum Products Using ICP-MS	9:20
234	Total Organic Carbon and Total Nitrogen: Hardware Options for Maximum Performance	12:00
238	Quantifying microplastics in Texas bays and estuaries using pyrolysis GC-MS	12:45
174	Expanding ASTM D5623 to include heavier sulfur species	1:15
231	Ion Chromatography Applications for the Energy Market – Robust, Sensitive and Flexible Solutions	1:35

Floral Hall A1 — AGILENT SEMINAR

190	ASTM D5769 Using the Agilent 8850 GC and 5977C GC/MSD with Hydrogen Carrier – Speed Meets Small Formfactor	8:00
192	Optimizing Elemental Analysis of Oils and Organic Solvents by Smart ICP-OES	8:20
189	How to Choose Proper FTIR Spectroscopic Techniques to Analyze Petroleum Products	8:50
199	Low Level, ppb, Determination in Refined Oils using the Agilent VDV ICP System and Muli-Variate Matix Correction	9:20
198	Analysis for Impurities in Fuel Cell Grade Hydrogen by Gas Chromatography	12:30
188	Next Generation Lab Operations using AI and Machine Learning	1:00

HIBISCUS ROOM

136	Polymer Chromatography: Beyond MW and Polydispersity with Advanced Detection GPC/SEC	8:00
182	Extending Insights to High-Boiling Fractions by Correlating CHNSO Composition with Oxygenates in Low-Boiling WPPOs	9:30
	THERMO FISHER SEMINAR	
180	Process Raman AIO	11:00
164	FT-IR Spectral Interpretation and Problem Solving	1:00
167	Omnic and Paradigm Software Tutorial for IR/Raman Spectroscopy Software	2:00

FLORAL HALL A2 — WASTE PLASTIC PYROLYSIS OIL SYMPOSIUM

160	Waste Plastic Process Oil Analytical Advances Symposium	8:45
228	Supercritical Fluid Chromatography with Flame Ionization Detection (SFC-FID) - Providing Analytical Solutions for the Fuel Product	9:05
197	Advancing Fluorine Quantification in WPPO: A Novel Combustion-AAS Approach	9:25
172	Technical Update of ASTM D8519, the First Standard Test Method Created for Analyzing Hydrocarbons in Waste Plastic Process Oils	11:10
204	Oxygen & CHNS Elemental Analysis of Waste Plastic Pyrolysis Oil: Challenges, Solutions, and Standardization	11:35
187	Nontarget Analysis of WPPO by GCxGC-HRTOFMS	1:10
279	Quantifying Olefins in Waste Plastic Pyrolysis Oils and Distillate Fractions via GC×GC–FID with Targeted Derivatization	1:40
239	Square Pegs in Round Holes: Challenges in WPPO Analysis in the Commercial Market	2:10
278	Interrogating the Composition of Mixed Plastic Waste Pyrolysis Oils using Supercritical Fluid and Gas Chromatography	2:35

PRESENTATIONS BY ROOM & TIME WEDNESDAY

IRIS ROOM

Abstract #	Title	Start Time
156	Water analysis in petrochemicals – the Karl Fischer Oven advantage	
226	New requirements in asphaltene stability and compatibility measurement of crude oil and marine fuel oils	8:45
221	Critical Considerations for Successful In Situ Liquid Process Sampling for Spectroscopy	9:05
152	Advances in High-Performance WDXRF for Petrochemical Applications	9:30
218	Automating your Current QMS (ISO, API, AS, IATF and Others)	12:15
116	Identification & Quantification of Microplastics Using Pyrolysis-GC/MS	1:15

WISTERIA ROOM

243	Learning the Tips and Tricks of Sample Introductory Techniques such as Headspace and Thermal Desorption for Gas Chromatography	8:00
247	Navigating the Transition from Helium as a Carrier Gas	8:40
212	"Now We're Cooking with Gas!" Pyrolysis GCxGC-MS of Polyolefins.	9:05
235	Full Flow Ahead: Flow-Modulated GCxGC Without Splitting on a Quadrupole Mass Spectrometer	9:25
150	Automated Analysis of Diene Value in Pyrolysis Oil, Gasoline & Naphtha in 5 minutes	9:50
153	Advancing Sample Preparation for Elemental Analysis: Strategies for Handling Challenging Matrices	12:00
161	From Connections to Impact: Maximizing Value at Scientific Conferences	12:25
155	Direct Mercury Analysis in Complex Petrochemical Matrices: A Fast, Reliable Alternative to CVAA and ICP	12:45
154	Optimizing the Total Workflow for Elemental Analysis in the Petrochemical Industry	1:10
168	Leading the Lab: A Science-Driven Approach to Leadership Styles and Managing Laboratory Teams	1:35
178	Shear Happens: Understanding instrumental limitations in rheology testing.	2:20

BLUEBONNET ROOM

103	Adding Repeatability and Reliability in Chromatography	
124	Cryogenic Milling as a Key Sample Preparation Step for Microplastic Analysis in Water via Pyrolysis-GC/MS	8:25
134	Quartz for SCD Combustion Tubes	8:45
163	New Revolutionary Process GC with Capillary Chromatography	9:05
175	Handling sampling issues on Gas Chromatography (GC) High Temperature Simulated Distillation	12:00
181	Polypropylene - Understanding the Effects of Impurities in Propylene Feed and the Analysis of these Components	12:20
202	Fit-for-purpose chromatography in petrochemical monitoring and characterisation	12:40
207	GCVUV Simulated Distillation	1:00
209	GCVUV Methods – Future Forward	1:25
169	Selection and Use of Wasson-ECE Small Devices and Enhancements for Chromatography Optimization	1:50
215	Rethinking Routine: Practical Strategies to Boost GC Productivity	2:20
216	Head-to-head comparison of DHA to ASTM D8369 Verified Hydrocarbon Analysis (VHA) Using Helium and Hydrogen Carrier Gases.	2:50

TULIP ROOM

	PFAS SYMPOSIUM: From Regulations to Measurements of PFAS in Air, Water, Biosolids	
270	Overview of PFAS Testing and Regulations	8:00
282	An Exploration of Sample Prep Techniques for Non-targeted Analysis of PFAS using Combustion Ion Chromatography	8:30
276	PFAS in Air: EPA OTM Methods	9:00
271	Streamlined PFAS Analysis in Biosolids, Tissue, Soil by LC-MS/MS	9:30
268	The Sticky Problem of the Forever Chemicals – New Challenges in Environmental Exposome	12:00
274	Defluorination and derivatization of fluoropolymers for determination of total organic fluorine in polyolefin resins by gas chromatography	12:30
269	PFAS in Air: Regulatory and Standards Landscape, Method Development, and Workflow Guidance	1:00
277	Laboratory Informatics for PFAS Testing: SLIMS	2:00
275	PFAS in Biosolids: Regulations and Testing Methods	2:30

PRESENTATIONS BY ROOM & TIME WEDNESDAY

ORCHID ROOM

Abstract #	Title	Start Time
105	Exploring Uncertainties of Reference Materials	8:00
117	Moisture and Solids Determination: Applications Based on Sample Characterization	8:20
146	Unlocking Maximum Value Across the Catalyst Lifecycle	9:05
102	Streamlining Spectroscopic Calibration	11:45
179	Implementing Raman Spectroscopy into Process Environments	12:10
166	FTIR /Raman Theory and Sample Handling	1:10
267	Process Raman AIO	2:10

DAFFODIL ROOM

ANTON PAAR SEMINAR

255	FTIR for FAME in Diesel Blends & Used Oils	8:00
256	Digestion of Petroleum Samples for Element Analysis with ICP	8:30
250	Flash Point Testing: Safety in Your Hands with ASTM D56, D93, and D92	9:00
252	Faster Polymer Analysis: Molecular weight in one measurement	9:30
251	Lubricant Analysis, Evolved: Smarter Oxidation and Cold-Flow Testing with ASTM D8206 and D2983	12:00
253	Move beyond D445 with the Simplicity of D7042	12:30
254	Remove the bottleneck! How D7525 can speed up oxidation testing in D4814 gasoline testing	1:00
249	Maintaining the Spark: Ignitor Care for ASTM D93 & D56 Units	1:30
123	Delving into Cyanide and TOC Analysis for Refinery and Plant Applications: Cracking and Boilers.	2:00

Floral Hall A1

AGILENT SEMINAR

193	Fast, Reliable and Versatile – Can Agilent Micro GC 990 Really Deliver It All?	8:00
194	Sensitive Detection of Volatile Fatty Acids in High Ionic Water Matrix using Ion Chromatography hyphenated with Single Quad Mass	8:30
191	Achieving Superior Chromatographic Data in the GC/SCD Analysis of ASTM D5623-Relevant Sulfur Compounds: Best Practices and Insight	9:00

HIBISCUS ROOM

273	Laboratory Digital Maturity: Readiness, Roadblocks, and Strategic Opportunities	9:00
272	Records and Security	12:00

FLORAL HALL A2

TEXAS SCIENTIFIC PRODUCTS WORKSHOP

245	Driving Lab Efficiency, Reliability, and Cost Savings with Advanced ICP-OES and ICP-MS Nebulizers	8:30

DATACOR LUNCH & LEARN SEMINAR

140	Demystifying the Black Box of AI: Recent Advancements in the Manufacturing Industry with Lou Zhang	11:30

Abstract# 100 - 10/13/2025 08:30 AM - 4:30 PM - Ivy 2 (Moody Gardens Hotel)
Understanding Test Method Precision, Bias, ILS Design, Statistical Quality Control Charts
Alex Lau - ASTM
Understanding Variation in Measurements: 'Statistical Thinking' philosophy and Core Concepts as applied to the measurement process
Precision Fundamentals: Overview of the Normal distribution and standard deviation concepts test method repeatability, reproducibility, and site prevision how r & R are estimated using ILS per D6300
In-Statistical-Control Fundamentals: Basic statistical theory, concept, and work process for statistical control charts (I, MR, EWMA)
Brief discussion on EPA Tier III SQC requirements
MUST REGISTER for this course at the link below: Understanding Test Method Precision, Bias, ILS Design, Statistical Quality Control Charts

Abstract# 101 - 10/14/2025 01:25 PM - 1:55 PM - Iris
ASTM D8148 – Bringing Haze and Clarity Ratings into the Modern Age
Ranzy Morgan - Choice Analytical Inc.
Utilizing simple operation and world-class spectroscopic techniques, the new ASTM test method D8148 delivers the rapid, precise, and reliable haze and clarity determination measurement capability needed for today's demanding petroleum and bio -based process control and product quality assurance applications. These applications include all light/middle distillate fuels (gasoline, jet and diesel) and biofuels. These materials are produced and transported in significant quantities and in each case the absence of haze, or product clarity, is an important quality control / workmanship requirement. Consequently, the determination and rating of haze and clarity in a wide variety of petroleum and biomass-based matrices is essential. After background and an introductory overview of the D8148 method, data is presented which demonstrates the power and flexibility made possible by this unique spectroscopic technology, provide updates on the latest ASTM activities and field testing as well as introducing the new portable insertion probe-based technique.

Abstract# 102 - 10/15/2025 11:45 AM - 12:10 PM - Orchid
Streamlining Spectroscopic Calibration
Brian Rohrback - Infometrix, Inc.
The adage "you can't control what you don't measure" may be old but it will always hold true. In the hydrocarbon processing industry, optical spectrometers are deployed to measure the chemistry and the physical attributes of the products we produce. Spectroscopy's advantage is that it is non-destructive, fast, can be run on-line, and provides quantitative information. On a continuous basis, a maintenance effort is required to determine the optimum number of factors and identify outliers that degrade model performance. This updating can be completely automated and optimized for any spectrometer employing any software.

Abstract# 103 - 10/15/2025 08:00 AM - 8:25 AM - Bluebonnet
Adding Repeatability and Reliability in Chromatography
Brian Rohrback - Infometrix, Inc.
Chromatography is one of the most useful technologies to employ in the hydrocarbon processing industry. In many cases, it is the cheapest and most adaptable technology available to fully document the composition of our samples. Two chemometrics technologies can be added to any chromatographic data source to streamline and simplify data handling. One is a signal processing approach that eliminates retention time variability. The second allows fully automated interpretation of chromatographic data to assess the data quality objectively. These approaches work with any instrument, lab or process.

Abstract# 104 - 10/14/2025 08:00 AM - 2:00 PM - Orchid
Gas Chromatography: Beginner to Expert in 4 hours!
Lee Polite - Axion Analytical Labs and Training Institute, Inc.
Gas Chromatography is one of the most popular analytical tools in the world, yet very few people understand how it works. During this 1-day course, you will not only understand it, but you will master it! We'll start by reviewing the fundamentals of GC (column flow, temperature, length, diameter, film thickness, stationary phase, split ratio, etc.). Then I'll show you how to use those fundamentals to develop and optimize methods from scratch. It is like driving a car: Once you understand the purpose of the pedals and steering wheel, you can drive anywhere you want without thinking about it. By the end of this class, you will be able to develop a method from scratch, optimize that method, cut the analysis time in half for any current method, and troubleshoot/fix your instruments. My goal is to put you into the driver's seat, so you are in control of your GC and not vice versa! Dr. Polite has made a 25-year career out of explaining complex topics in an easily understood manner. This class is no exception.
Class is 4 hours - 8:00AM - 10:00AM - Break for Keynote Speaker & Lunch - Resume 12:00PM to 2:00PM

Abstract# 105 - 10/15/2025 08:00 AM - 8:20 AM - Orchid
Exploring Uncertainties of Reference Materials
Leon Gilchrist - DCG
Refinery and petrochemical laboratories utilize various instruments and test methods to qualify production processes and quantify final products. Critical to this is the need for quality reference materials (RMs) and certified reference materials (CRMs) for component identification, instrument calibration, and check standards. But what is the difference between these references and their associated uncertainties? When should each type be utilized by the lab if not specified in an ASTM, GPA, UOP or ISO method, or if a variation of the method is needed? This presentation will explain the differences between RMs and CRMs and their effect on laboratory data uncertainty.

Abstract# 116 - 10/15/2025 01:15 PM - 2:45 PM - Iris
Identification & Quantification of Microplastics Using Pyrolysis-GC/MS
Rojin Belganeh - Frontier Laboratories Ltd., William Pipkin - Frontier Laboratories Ltd., Ichi Watanabe - Frontier Laboratories Ltd., Athena Nguyen - Frontier Laboratories Ltd.
Microplastics (MPs) are tiny plastic particles that measure less than five millimeters across. They result from the breakdown of larger commercial plastics or by breaking away from larger plastics that have fragmented over time, like debris from tire wear. The number of commercial products with intentionally added microplastics is massive: cosmetics, detergents, paints, medicines, diapers, pesticides – the list goes on. Over time, these tiny particles end up flooding our environment.
This workshop demonstrates how micro-furnace pyrolysis-GC/MS quantifies and identifies MPs in environmental samples based on ASTM 8401-24 and other matrices. You will also perform hands-on data interpretation using the F-Search MP engine, analytical software for MP analysis.

Abstract# 117 - 10/15/2025 08:20 AM - 9:05 AM - Orchid
Moisture and Solids Determination: Applications Based on Sample Characterization
Paula Heimler - METTLER TOLEDO
Moisture & Solids Content affects the processibility, shelf life, usability and quality of Wastewater, Plastics, Chemicals, Pharmaceutical Substances, Cosmetics, Foods.
Intended Audience: Lab, Production & Quality Managers, Senior Scientists, Metrologists What is Loss on Drying (LOD)? Drying Oven vs Moisture & Solids Analysis vs Titration Fundamentals and Best Practices Applications and Sample Preparation Data Management Demonstration-Hands on

Abstract# 118 - 10/14/2025 08:00 AM - 8:30 AM - Wisteria
Advancements in EPH Fractionation: Overcoming Challenges and Enhancing Efficiency
Christopher Mitchell - Biotage
Extractable petroleum hydrocarbon (EPH) fractionation is a specialized methodology utilized to separate aliphatic and aromatic fractions of petroleum hydrocarbons found in environmental samples. Information obtained from EPH fractionation testing provides a more detailed assessment of the hydrocarbon composition and helps environmental scientists identify the potential impact of these contaminants. The three laboratory techniques commonly used for Extractable Petroleum Hydrocarbon (EPH) fractionation are High-Performance Liquid Chromatography (HPLC) Fractionation, Solid Phase Extraction (SPE), and Gas Chromatography with a secondary column (GCxGC). Each technique has challenges such as low sample throughput, high solvent usage, breakthrough of fractions, potential contamination, and issues related to analytical data processing. This investigation outlines challenges for solid phase extraction and solutions to meet the regulatory requirements of various states and regions in North America. Results demonstrate why utilization of positive pressure SPE on automated platforms such as the Biotage ExtraheraTM provides an innovative approach to performing EPH

fractionations, offering improved control and consistent processing. In addition to consistent positive pressure processing, the use of ISOLUTE® EPH SPE consumables eliminates the potential risk of unwanted fraction breakthrough. Overall, the benefits of choosing solid phase extraction over other techniques are highlighted, emphasizing solvent reduction, faster processing times, higher throughput and enhanced accuracy and reproducibility. The findings of this research contribute valuable insights for laboratories seeking to optimize EPH fractionation techniques for more efficient and reliable analyses.

Abstract# 122 - 10/14/2025 08:30 AM - 9:30 AM - Wisteria
Cyanides in the Cracking Products, Organics in the Boiler Water, and Moisture in the Feedstocks—How Can Xylem Help?
Garrett Slaton - Xylem
This presentation aims to introduce analytical solutions to problems of high interest to the refinery and chemical plant space. These include 1) measurement of the cyanide content in hydrocracking and fluid catalytic cracking (FCC) products of hydrocarbons, 2) extraction and filter breakthrough in condensate return which can be measured with total organic carbon (TOC) analyzers, 3) moisture in petroleum feedstocks by Karl Fischer (KF) titration. All these analyses are designed to prevent disasters and mitigate severe issues in your plant's workflow and Xylem Analytics offers solutions for each.

Abstract# 123 - 10/15/2025 02:00 PM - 3:00 PM - Daffodil
Delving into Cyanide and TOC Analysis for Refinery and Plant Applications: Cracking and Boilers.
Garrett Slaton - Xylem
Hydrocracking and fluid catalytic cracking (FCC) can generate sour water with cyanide content which can take various forms depending on conditions. Total, available (amenable) and free cyanide analysis using injection segmented flow analysis incorporating a gas diffusion manifold to handle hydrogen cyanide gas safely and either amperometric or photometric detection will be described, along with interferents and common pitfalls. Total organic carbon (TOC) analysis of boiler feed water can help to eliminate corrosive species in the heat exchanger system, prolonging life and lowering maintenance costs and downtime. The use of TOC measurements, both from in-line monitoring systems and benchtop analyzers will be described, with comparisons of the two approaches.

Abstract# 124 - 10/15/2025 08:25 AM - 8:45 AM - Bluebonnet
Cryogenic Milling as a Key Sample Preparation Step for Microplastic Analysis in Water via Pyrolysis-GC/MS
Athena Nguyen - Frontier Lab Americas
Cryogenic milling is a critical step in preparing water samples for microplastic (MP) analysis via pyrolysis-GC/MS. Using the IQ MILL-2070, filtered and oven-dried samples were efficiently pulverized under liquid nitrogen cooling, ensuring polymer integrity and homogeneity. This method minimizes thermal degradation and supports consistent, reproducible results. Cryo-milling enhances sample quality and lays the foundation for sensitive, trace-level MP detection, making it a valuable tool in environmental microplastic research.

Abstract# 131 - 10/14/2025 09:30 AM - 9:55 AM - Wisteria
Analysis of Several Challenging Elements in Petroleum Products by ICP-MS
Aaron Hineman - PerkinElmer
ASTM method D8110-17 details the analysis of trace contaminants such as Al, Ca, Cu, Fe, Pb, Mg, and K in light distillate products. However, other metals are also of interest and D8110-17 does provide method development flexibility to include additional elements. Challenges in analyzing petroleum products include volatility, carbon buildup, contamination, and spectral interferences. Contamination with common elements, such as Si, P and S, of solvents used to dilute petroleum samples before analysis can affect their levels of detection. However, the biggest challenges are spectral interferences. Fortunately, with the latest technological advancements in ICP-MS these challenges can be overcome. This work presents data for the analysis of Si, P, S, As and Hg in petroleum products in addition to D8110-17 method data.

Abstract# 132 - 10/14/2025 12:30 PM - 1:00 PM - Wisteria
Analysis of Nanoparticles in Organic Solvents by Single Particle ICP-MS with a Dynamic Reaction Cell
Aaron Hineman - PerkinElmer
Metallic contamination in organic solvents can severely compromise product integrity in ultra-trace applications, particularly in the semiconductor industry. Among various impurities, metals, most notably iron (Fe), are frequently encountered and can significantly degrade both product performance and value. Single particle inductively coupled plasma mass spectrometry (SP-ICP-MS) has emerged as a powerful technique for nanoparticle analysis, capable of detecting, counting, and sizing individual particles at concentrations as low as 100–1000 particles/mL. However, interferences — especially polyatomic species — can limit the system's detection capabilities. For example, accurate Fe nanoparticle detection is hindered by the $^{40}Ar^{16}O^{+}$ interference on $^{56}Fe^{+}$. This work demonstrates the use of SP-ICP-MS in Reaction mode with Dynamic Bandpass Tuning (DRC) to effectively eliminate polyatomic interferences for iron and other elemental nanoparticle impurities, such as silica. This approach enables reliable detection and characterization of metallic nanoparticles in organic solvents, achieving lower size detection limits and improved analytical confidence.

Abstract# 134 - 10/15/2025 08:45 AM - 9:05 AM - Bluebonnet
Quartz for SCD Combustion Tubes
Randall Shearer - University of Colorado, Boulder
Using quartz as the basis of SCD (Sulfur Chemiluminescence Detection) combustion tubes was reexamined, primarily aimed at improving detector performance. Research focused on the Agilent model 8355 but is applicable to other versions and competitive models. From early SCD development, quartz was used as a combustion material but suffered from an unknown high background, among other issues. The author now believes the background is due to the formation of silicon monoxide. Evidence to support this will be presented. The high background problem has been solved with the use of hybrid materials, resulting in better stability and consistency among combustion tubes.

Abstract# 136 - 10/14/2025 08:00 AM - 9:30 AM - Hibiscus
Polymer Chromatography: Beyond MW and Polydispersity with Advanced Detection GPC/SEC
John Erne - Analytical Outfitters, LLC
For polymer scientists, molecular weight and polydispersity are the two most critical pieces of information about a given sample. Size Exclusion Chromatography, usually carried out as Gel Permeation Chromatography, is the go-to technique to determine these parameters. From the same sample preparation, much more information about the sample can be gained than just Mw, Mn, Mz. Additional detectors including light scattering (SEC-LS or SEC-MALS), a second concentration detector (UV-VIS or dRI), and inline viscometers unlock additional information about the sample. These add-ons can also simplify calibration and verification. Column and standards selection, method development and troubleshooting basics will be covered at the end for those interested in expanding their familiarity with GPC/SEC.

Abstract# 137 - 10/16/2025 09:00 AM - 4:00 PM - Ivy 2 (Moody Gardens Hotel)
Analytical Training - Bridging the Gap Between Chemists and Process Engineers
Jean-Francois Borny - BASIC
This course will include a complete tour of the analytical laboratory for the petroleum industry. We will discuss many analytical instruments and their basic function and technology. This will include GCs, ICP, ICP-MS, XRD, XRF, elemental analyzers, titrators and more. This course will also bridge the gap that some chemist experience while discussing the engineer needs including reading P&ID, block flow diagram, online analyzers, sampling, and sampling system. And finally, we will discuss the different standardized methodologies including ASTM, UOP, IFP, GPA methods and dive into QA/QC including repeatability and reproducibility. The course will be heavily supported by real world examples and as an open forum for questions and answers throughout the day.

Abstract# 140 - 10/15/2025 11:30 AM - 12:30 PM - Floral Hall
Demystifying the Black Box of AI: Recent Advancements in the Manufacturing Industry with Lou Zhang
Lou Zhang - Datacor
Lunch & Learn - Lunch Provided - Conference Attendee Registration Required. Must RSVP - Click on the Link Below
RSVP - Limited Spots Available
In a fast-evolving manufacturing landscape, Artificial Intelligence (AI) is more than a buzzword—it's a business imperative. Enjoy a complimentary lunch-hour

session where Baytek and its new parent company, Datacor, will pick up the tab for both your meal and your mind! Lou Zhang, Senior Lead of Data Science at Datacor, will reveal how today's most powerful AI tools are already reshaping our industry. What you'll discover:
Why AI isn't just hype: Understand how AI supports digital transformation and continuous improvement across your enterprise.
Behind the buzzwords: A clear, no-nonsense look at how machine-learning models actually "learn" and improve over time.
A practical path to AI-readiness in your organization: Learn the crawl-walk-run approach to scale AI safely and effectively.
Conference Attendee Registration Required.
Must RSVP - Click on the Link Below
RSVP - Limited Spots Available

Abstract# 141 - 10/14/2025 08:55 AM - 9:15 AM - Tulip
Characterization of highly dispersed polymers and their end groups by combining SEC/MALDI-TOFMS and Kendrick mass defect analysis
Bryan Katzenmeyer - JEOL, Takaya Satoh - JEOL, Takafumi Sato - JEOL, Kumiko Ikuta - TOSOH Analysis and Research Center Co.,Ltd., Yuko Matsubuchi - TOSOH Analysis and Research Center Co.,Ltd., Takayasu Hirai - TOSOH Analysis and Research Center Co.,Ltd., Nobuyuki Kagawa - TOSOH Analysis and Research Center Co.,Ltd., Tetsuya Sugimoto - S.T.Japan Inc., Tsuneo Kobayashi - S.T.Japan Inc.
Matrix-assisted laser/desorption ionization time-of-flight mass spectrometry (MALDI-TOFMS) is an effective method for analyzing polymers. However, polymers with high polydispersity can cause mass discrimination, where ion intensity decreases at higher molecular weights. We combined size-exclusion chromatography (SEC) with MALDI-TOFMS and MALDI-TOF/TOFMS to address this. In this report, we performed end-group analysis of polymer samples with high polydispersity and molecular weights below 50,000 using SEC and high-performance MALDI-TOFMS. We report (i) efficient MALDI pretreatment from SEC fractionation, (ii) improved visualization of end-group changes through remainder of Kendrick Mass (RKM) plots, and (iii) end-group analysis utilizing high mass accuracy and TOF/TOF measurements. Two polycaprolactone (PCL) samples with different end-groups were dissolved in THF and fractionated using SEC. Six fractions were collected, significantly decreasing the polydispersity index (PDI) from > 1.4 Đ to < 1.1 Đ. MALDI-TOFMS analysis revealed a series of PCL monomers and reduced mass discrimination, with isotopic peak separation achieved up to m/z 20,000, allowing precise end-group determination within < 2 ppm. Although the change in molecular weight distribution is easily observed in the mass spectra, understanding the changes in end-groups based on molecular weight is challenging. To visualize end-group changes, we converted the mass spectra into RKM plots. These plots clarified that cyclic oligomers dominated at low molecular weights, while higher weights exhibited two distinct mass distributions corresponding to different end-groups, identified as $C_4H_{10}O$ and $C_4H_{10}O_3$ through accurate mass and MS/MS (TOF/TOF) measurements.

Abstract# 144 - 10/14/2025 01:55 PM - 2:25 PM - Iris
The Data-Driven Plant: How AI Transforms Process Analytics
David Cuthbert - Wasson-ECE Instrumentation
This presentation explores how artificial intelligence will transform chemical manufacturing, particularly in process control and analytical chemistry. It contrasts traditional reactive control methods that rely on downstream measurements with AI-driven predictive systems that enable proactive optimization through upstream monitoring. The key transformation shifts focus from "fix-it-after-it-happens" to "prevent-it-before-it-happens" methodologies. Success requires comprehensive data collection today to build tomorrow's AI models. Rather than replacing analytical chemists, AI will evolve their roles from data gatherers to decision enablers who train models, interpret insights, and bridge AI recommendations with operational reality. Companies must invest in data infrastructure now to remain competitive.

Abstract# 145 - 10/14/2025 01:20 PM - 2:00 PM - Wisteria
Analysis of Elemental Impurities in Diesel by the New PlasmaQuant 9200 HR ICP-OES According to ASTM D7111-16
Jesus Acapulco - Analytik Jena, Jess Gantt - Analytik Jena, Kilian Schneider - Analytik Jena, Maximilian Schüssler - Analytik Jena
This study presents a methodology for the direct determination of elemental impurities in diesel fuel using the new PlasmaQuant 9200 high-resolution inductively coupled plasma optical emission spectrometry (HR ICP-OES) in compliance with ASTM D7111-16. Diesel's complex organic matrix, high carbon content, and potential for severe spectral interferences pose significant analytical challenges. Analytik Jena's recently launched PlasmaQuant 9200 —a space saving powerhouse —features an upgraded robust plasma system while retaining its high-resolution optics (2 pm @ 200 nm), enabling accurate trace element detection. This approach achieves limits of detection in the low µg/kg range for all target elements, even in undiluted diesel samples. Method validation demonstrated recovery range within ±8% range for both QC standards and spiked samples, with signal drift under 4% over an eight-hour run. The results confirm that the new PlasmaQuant 9200 HR ICP-OES method provides accurate, precise, and interference-free elemental analysis, supporting improved diesel quality control and compliance with regulatory requirements.

Abstract# 146 - 10/15/2025 09:05 AM - 9:35 AM - Orchid
Unlocking Maximum Value Across the Catalyst Lifecycle
Monica Rodriguez - Malvern Panalytical
Catalysts are among the most valuable assets in refining operations, impacting efficiency, yield, and sustainability. We empower you to utilize full potential from your catalysts throughout their entire lifecycle. Join us to explore how our expanded analytical portfolio delivers unique synergies that enhance catalyst performance from design to regeneration. This session will highlight how combining techniques such as dynamic chemisorption with rare earth element composition analysis provides deeper insights into active site behavior. We'll also showcase how porosity and particle size and attrition analysis contribute to optimal column packing and mechanical stability. Whether you're involved in catalyst development, process, or lifecycle management, this talk will demonstrate how integrated characterization tools can drive efficiency, reliability, and added value across your catalyst value chain.

Abstract# 147 - 10/14/2025 08:25 AM - 8:45 AM - Iris
Important Considerations for Py-GC/MS Analysis of Microplastics on Particulate Matter Filters
William Pipkin - ATRq, Atsushi Watanabe - Frontier Laboratories Ltd, Takashi Kimoto - Kimoto Electric Co., Ltd, Rojin Belganeh - Frontier Laboratories Americas
As a result of a 3-year program to improve analytical methods utilizing Py-GC/MS to measure atmospheric microplastics (AMPs) on particulate matter (PM) air filters, we report on the experimental aspects that need to be carefully considered to ensure reliable measurements. PM filter issues such as sampling methods, filter selection, pretreatment, storage, and removal of interfering organics and inorganics from sampled PM filters are presented. The impact of these issues on identification and quantification of AMPs by Py-GC/MS and their mitigation are discussed. PM filters of various sizes, i.e., TSP, PM10, and PM2.5. were sampled in Tokushima, Osaka, and Koriyama Japan.

Abstract# 148 - 10/14/2025 12:00 PM - 12:45 PM - Tulip
Diviner: A Semi-AutoML Approach to Collaborative Model Building
Nathanial Watson - Eigenvector Research, Inc.
Diviner is a semi-autoML approach that addresses traditional AutoML's black-box limitations by involving analysts in the model-building process. Instead of producing a single optimal model, the method creates a ranked family of models based on cross-validation performance, overfitting, and prediction error. The process includes user-assisted outlier assessment, variable selection, preprocessing exploration, and linear model calibration. Users can then select models for further refinement. Models can be linear or non-linear. The final output can be a single model, top-ranked models, or an ensemble. This collaborative approach bridges full automation and user customization, delivering improved transparency, interpretability, and model diversity while maintaining predictive accuracy.

Abstract# 150 - 10/15/2025 09:50 AM - 10:10 AM - Wisteria
Automated Analysis of Diene Value in Pyrolysis Oil, Gasoline & Naphtha in 5 minutes
Harm Moes - Da Vinci Laboratory Solutions, Don Crider - WindWard Analytical
In refining and petrochemical operations, even trace levels of conjugated dienes can cause gumming, catalyst deactivation, and product instability. Traditionally, the UOP 326 method measures Diene Value via a manual Diels–Alder reaction and titration—slow, labor-intensive, and requiring hazardous chemicals. Da Vinci Laboratory Solutions introduces the fully automated Diene Value Analyzer, based on an Agilent HPLC with UV-Vis detection and a DVLS

Reaction Module. By automating the Diels–Alder reaction with a selective colorimetric reagent, it delivers accurate, repeatable DV results in just 5 minutes—boosting safety, speed, and sensitivity for process monitoring and quality control.

Abstract# 152 - 10/15/2025 09:30 AM - 9:50 AM - Iris
Advances in High-Performance WDXRF for Petrochemical Applications
Julia Sedlmair - Bruker AXS
Elemental analysis in the petrochemical industry requires compliance with multiple international standards while maintaining high throughput and instrument availability. The new S8 TIGER Series 3 wavelength-dispersive X-ray fluorescence (WDXRF) spectrometer introduces hardware and software improvements aimed at meeting these requirements with enhanced robustness and operational reliability. This presentation will discuss how these developments support consistent performance across a wide range of petrochemical applications. Case studies relevant to process control will be presented, illustrating the effect of the new developments.

Abstract# 153 - 10/15/2025 12:00 PM - 12:25 PM - Wisteria
Advancing Sample Preparation for Elemental Analysis: Strategies for Handling Challenging Matrices
Rick Headrick - Milestone Inc
Accurate elemental analysis depends on complete digestion, yet petrochemical and industrial samples such as crudes, catalysts, and polymers remain difficult to prepare. This session explores best practices for handling high-matrix materials, from selecting digestion techniques and chemistries to minimizing contamination and improving safety. Comparative workflows, instrumentation considerations, and real-world case studies will highlight how advanced sample prep solutions ensure reproducibility, compliance with ASTM methods, and reliable results for ICP-OES, ICP-MS, and AA applications.

Abstract# 154 - 10/15/2025 01:10 PM - 1:35 PM - Wisteria
Optimizing the Total Workflow for Elemental Analysis in the Petrochemical Industry
Rick Headrick - Milestone Inc
Elemental analysis success depends on the entire workflow, not just detection. Petrochemical labs face challenges with complex matrices, contamination, and regulatory compliance. This presentation examines strategies for optimizing each step, from sample collection and digestion to acid purity and instrument integration. Case studies illustrate gains in reproducibility, reduced rework, and compliance with ASTM and EPA methods. Attendees will learn how adopting a total workflow mindset improves productivity, safety, and data integrity across petrochemical applications such as wear metals, catalyst poisons, and trace contaminants.

Abstract# 155 - 10/15/2025 12:45 PM - 1:10 PM - Wisteria
Direct Mercury Analysis in Complex Petrochemical Matrices: A Fast, Reliable Alternative to CVAA and ICP
Rick Headrick - Milestone Inc
Mercury testing is critical in petrochemical labs, yet CVAA and ICP methods require laborious digestion and generate hazardous waste. Direct mercury analysis (DMA) offers a faster, cleaner alternative, delivering ppt–ppm detection in solids, liquids, and gases within minutes. This session covers DMA workflow advantages, including improved accuracy, reduced contamination, and compliance with ASTM and EPA methods. Case studies from refinery and environmental applications demonstrate cost savings, safer operations, and streamlined throughput.

Abstract# 156 - 10/15/2025 08:00 AM - 8:45 AM - Iris
Water analysis in petrochemicals – the Karl Fischer Oven advantage
Eduardo Simoes, MSc - Metrohm USA
Analyzing the water content in petrochemicals like lubricants and hydraulic oils can be challenging due to high viscosity and interfering reactions. The Karl Fischer oven technique is an excellent solution. This auxiliary method uses a gas extraction process to accurately determine water content in difficult samples, an approach recognized by ASTM standard D6304. Attend this course to learn how to optimize this automated technique for reliable and accurate moisture analysis across all petrochemical samples.

Abstract# 157 - 10/14/2025 12:00 PM - 12:30 PM - Wisteria
Advancing Corrosion Management through IC Analysis of Amines
Dr. Jay Gandhi - Metrohm USA
Oil pipelines and refineries require constant monitoring and upkeep to maintain successful operations. To minimize corrosive gases and neutralize hydrogen sulfide vapor, amines are routinely added during the transport of crude oil. However, if too much amine is added, corrosion rates may accelerate. Therefore, it is in the industry's best interest to monitor these compounds at various locations. Cooperation continues between ASTM and industry partners to develop a standard practice for extraction of water-soluble amines in crude oil. This talk addresses the impact of amines on crude refinement and the versatility of ion chromatography to monitor these species.

Abstract# 158 - 10/14/2025 02:00 PM - 2:45 PM - Wisteria
Unlocking Standardized Combustion Ion Chromatography Methods for Petrochemical Quality Assurance
Dr. Jay Gandhi - Metrohm USA
Combustion Ion chromatography (CIC) is used extensively for monitoring halides and sulfur in petrochemicals. The ability to independently measure fluorine, chlorine, bromine, and sulfur in a variety of sample matrices by one analysis is unique to CIC, which allows producers and buyers to verify product quality and justify their price. Many standardized test methods (STM's) have been published so that CIC-generated data is reliable and precise across the industry. This talk describes three such methods to analyze petroleum distillates, liquified petroleum gas (LPG), and organic solvents and includes real-world examples.

Abstract# 160 - 10/14/2025 08:45 AM - 9:05 AM - Floral Hall A2
Waste Plastic Process Oil Analytical Advances Symposium
Jean-Francois Borny - Lummus Tech
The newly published Waste Plastic Process Oil (WPPO) Guide designated as ASTM D8577-25 states in its Significance and Use that converting discarded plastic materials into process oil provides an alternative to traditional waste management approaches like landfilling or incineration. To ensure the viability and safety of process oil applications, thorough analyses and characterization are essential. Many of the standards listed in the guide can be used for WPPO. However, not all standards include WPPO in their scope and precision statements. This symposium brings together analytical experts in each of their fields to describe their analytical modifications to analyze a wide range of WPPO. This presentation will introduce the symposium on WPPO.

Abstract# 161 - 10/15/2025 12:25 PM - 12:45 PM - Wisteria
From Connections to Impact: Maximizing Value at Scientific Conferences
Corey Gerheim - Pittcon
Scientific conferences are more than presentations and exhibits they are catalysts for collaboration, innovation, and growth. Drawing on years of experience in planning and executing global events, this session explores strategies to maximize professional and organizational return on investment. Attendees will gain practical insights into fostering industry-academic partnerships, elevating networking opportunities, and aligning conference participation with strategic goals. Whether you are a researcher, exhibitor, or organizer, you will leave with actionable methods to transform conference attendance into measurable impact.

Abstract# 163 - 10/15/2025 09:05 AM - 9:45 AM - Bluebonnet
New Revolutionary Process GC with Capillary Chromatography
John Wasson - Wasson-ECE Instrumentation
Chemical processing plants around the world have complex streams that require complex analyses. Process gas chromatographs (PGCs) can provide many plants with some of this critical on-line data, but too often plants must also rely on laboratory GC analysis as backup. What's needed is a PGC that can provide repeatable capillary chromatography. It also needs to be built to ATEX or Class I, Div. 2 specifications so that it can be installed in hazardous rated areas. Wasson-ECE's Eclipse (FID/TCD/PDHID), Neutrino (MSD), and E-VUV (VUV detector) PGCs provide such a solution. These PGCs use convection ovens to drive the performance of capillary column chromatography. The precision of the oven temperature control was proven to demonstrate highly reproducible retention times and peak areas. The Eclipse, Neutrino, and E-VUV PGCs provide single analyzer solutions that deliver results for a diverse range of analytes

Abstract# 164 - 10/14/2025 01:00 PM - 2:00 PM - Hibiscus
FT-IR Spectral Interpretation and Problem Solving
Andrew Schmitz - ThermoFisher Scientific
Fourier Transform Infrared (FTIR) spectroscopy is utilized to study and analyze molecular vibrations. Depending on characteristics of the molecule such as mass, bonding strength and shape will determine where the FTIR peaks lie in the spectrum. These peaks can determine what functional groups exist along with chemical identification via FTIR spectroscopic libraries. This presentation will give an introduction on FTIR spectral interpretation and using spectroscopic libraries for functional group and chemical identification.

Abstract# 166 - 10/15/2025 01:10 PM - 2:10 PM - Orchid
FTIR /Raman Theory and Sample Handling
Andrew Schmitz - ThermoFisher Scientific
Infrared (IR) spectroscopy is a quick, reliable, non-destructive technique that takes advantage of molecular vibrations to identify and study chemicals. Fourier Transform Infrared (FTIR) spectroscopy is the main method in executing IR spectroscopy. With IR spectroscopy a user can identify compounds, functional groups in organic molecules, interaction between a molecule and its local environment, and perform quantitative analysis such as concentration measurements just to name a few. There are several techniques in FTIR spectroscopy such as drifts, attenuated total reflectance and transmission. This presentation will cover the theory of FTIR spectroscopy along with the different sampling techniques and their applications.

Abstract# 167 - 10/14/2025 02:00 PM - 3:00 PM - Hibiscus
Omnic and Paradigm Software Tutorial for IR/Raman Spectroscopy Software
Cam Macissac - ThermoFisher Scientific
This workshop will cover Omnic software, the popular platform for running Thermo Fisher FT-IR, FT-NIR, and Raman spectrometers. A live software demonstration will be given to highlight features of Omnic, which will include collection of data from a working spectrometer. A live demonstration of TQ software will be given illustrating FTIR, FT-NIR and Raman quantitative and qualitative methods. Suggestions will be given on how to diagnose chemometric methods to ensure they accurately predict. Some pitfalls will be covered to avoid improperly modeled methods. In addition, an overview of Macros/Basic automated workflow software will be given. This software is designed to build pre-program quantitative predictions. The Macros language can also automate many other software functions, like basic kinetic routines.

Abstract# 168 - 10/15/2025 01:35 PM - 2:20 PM - Wisteria
Leading the Lab: A Science-Driven Approach to Leadership Styles and Managing Laboratory Teams
Tamara Perry - Labtopia, Inc,
Laboratory Managers are often propelled into leadership roles, not by their desire or ability to manage people, but by their deep technical expertise and analytical prowess. Unlike traditional corporate leaders who often thrive on interpersonal dynamics and persuasive communication, Lab Managers are typically more focused, analytical, and process-oriented—valuing precision, data, and logical problem-solving over instinctive people management. Yet, effective leadership is crucial to maintaining high-performing, collaborative, and innovative lab environments. This session will demystify the art of Lab Management by exploring the science behind leadership styles and how they affect team dynamics, productivity, and morale. Attendees will learn how to identify their own leadership tendencies, adapt their approach based on team needs, and apply a data-informed mindset to managing people. Participants will walk away with actionable tools and frameworks to become more confident, intentional, and impactful leaders. Whether you're leading a research group, managing technicians, or in a more strategic operational role this session will help you align your leadership with your scientific strengths to lead with confidence, inspire with purpose, and build a lab culture where innovation and people thrive.

Abstract# 169 - 10/15/2025 01:50 PM - 2:20 PM - Bluebonnet
Selection and Use of Wasson-ECE Small Devices and Enhancements for Chromatography Optimization
Ona Broadway - Wasson-ECE Instrumentation
Persistent sample handling challenges compromise analytical accuracy and efficiency of many gas chromatography (GC) methods. Laboratory professionals struggle with routine and complex samples requiring specialized conditions and system integration. Wasson-ECE addresses these critical needs through innovative small devices that enhance GC performance. Our standard and custom lab devices eliminate sample handling bottlenecks by accommodating any sample type, frequency, temperature, pressure, or unique requirement. These solutions integrate seamlessly as add-ons to new systems or upgrades for existing gas chromatographs. Laboratories can choose between automated control through chromatography data systems or standalone operation, ensuring optimal workflow integration.

Abstract# 170 - 10/14/2025 09:35 AM - 10:00 AM - Iris
Forensic Assessment of Residual Oil from the Pearl Harbor Shipwreck
Jagos Radovic - University of Houston - Center for Petroleum Geochemistry (UH-CPG), Bryan James - Northeastern University, Robert Nelson - Woods Hole Oceanographic Institution, Christopher Reddy - Woods Hole Oceanographic Institution
More than 80 years after its sinking at Pearl Harbor, the USS Arizona continues to release small amounts of oil, offering a unique window into the long-term fate of submerged petroleum. This study analyzes oil from multiple leak points using bulk and molecular fingerprinting (GC-FID, GC-MS, GC×GC). The oil, a heavy fuel refined from California crude, remains chemically complex and PAH-rich despite decades underwater. Variability among leak points reflects differing weathering, while stable biomarkers enable source attribution. Findings highlight chemical heterogeneity, environmental risks, and broader implications for historic shipwrecks as long-term pollution sources.

Abstract# 171 - 10/14/2025 08:45 AM - 9:15 AM - Iris
Environmentally Friendly Solid Phase Extraction Approach for Multiple Classes of Organic Pollutants Following EPA 8270E
Don Shelly – Don Shelly Consulting
Arielle Cocozza - UCT
EPA Method 8270E offers an updated, more sustainable approach for analyzing semi-volatile organic compounds (SVOCs), replacing traditional DCM-heavy extractions with solid-phase extraction (SPE). UCT's proprietary 8270 sorbent, paired with activated carbon, enables broad compound retention, including polar analytes like 1,4-dioxane, while minimizing solvent use and exposure risks. This method supports parallel sample processing and delivers reliable quantification of over 130 target compounds at or below 10 µg/L, including those in the Priority Pollutant, RCRA, and Superfund lists. Performance testing confirmed acceptable precision and recovery for nearly all compounds, and hydrogen was used as a GCMS carrier gas to explore a cost-effective helium alternative. Overall, the SPE method meets EPA QC standards while enhancing lab safety and throughput.

Abstract# 172 - 10/14/2025 11:10 AM - 11:35 AM - Floral Hall A2
Technical Update of ASTM D8519, the First Standard Test Method Created for Analyzing Hydrocarbons in Waste Plastic Process Oils
Alex Hodgson - VUV Analytics, Inc
In the continued effort to find sustainable and renewable sources of hydrocarbons, researchers and companies worldwide are actively exploring plastic waste and developing methodologies using pyrolysis technologies to convert waste plastics into usable petrochemical feedstocks. These new processes have been challenging to monitor and optimize with current analytical approaches used for traditional hydrocarbon streams. A new ASTM method, D8519, uses vacuum ultraviolet (VUV) spectroscopy to provide class-based identification and quantitation of hydrocarbons in pyrolysis oils over a broad carbon range. In this presentation we'll discuss the most recent updates of D8519 as it nears the end of the ASTM process.

Abstract# 173 - 10/14/2025 08:25 AM - 8:55 AM - Tulip
GC Column Selection – Tips and Tricks that are NOT Rocket Science
James Pachlhofer - Thermo Fisher Scientific
Gas Chromatography has become a popular, widely used, very dependable, analytical technique. Key to its popularity has been the use of fused silica, open tubular, separation columns. This presentation is about selection of a suitable column from the sometimes-bewildering variety of columns on the market. Tips and Tricks are discussed from the authors many years of GC application development.

Abstract# 174 - 10/14/2025 01:15 PM - 1:35 PM - Daffodil
Expanding ASTM D5623 to include heavier sulfur species
Alan Cummings - Lummus Technology
ASTM D5623 measures sulfur compounds in light petroleum liquids by a gas chromatography and sulfur selective detector up to 230°C. However, many sulfur species in these boiling ranges are not identified and classified as "unknowns." Furthermore, sulfur species beyond 230°C are sometimes needed for sour crudes, catalyst performance and tracking environmental compliance. To expand ASTM D5623, overcoming the chromatographic challenges of separating these heavier sulfur compounds is a challenge. In an attempt to expand ASTM D5623, many exotic sulfur species are identified along with analyzing various "out of scope" heavier boiling range hydrocarbons. This abstract will discuss what is Sulfur Chemiluminescence and the findings from this study.

Abstract# 175 - 10/15/2025 12:00 PM - 12:20 PM - Bluebonnet
Handling sampling issues on Gas Chromatography (GC) High Temperature Simulated Distillation
Gabriel Villarreal - Lummus Technology
As technology advances for products in the petrochemical industry, sample issues can arise when it comes to analysis by GC High Temperature Simulated Distillation. A wider range of products such as waste plastic pyrolysis oils and bio derived fuels are just some of the examples of samples encountered. Common issues include inlet, column, and detector contamination. These challenges can give rise to incomplete elution of the sample, changes in retention times and erratic results. The causes of these issues and the steps to resolve them are the subject of this paper.

Abstract# 176 - 10/14/2025 09:15 AM - 9:35 AM - Iris
Lessons learned in Setting Up EPA 1633 for PFAS Analysis in Leachate Samples
Ninoska Ruiz - Lummus Technology
Implementing EPA Method 1633 for PFAS analysis is challenging in landfill leachate due to matrix effects. During method setup, inconsistent recoveries and ion suppression were observed using LC-MS/MS. This presentation shares lessons learned, practical troubleshooting approaches, and key considerations for improving data quality and method robustness in PFAS monitoring of complex environmental samples.

Abstract# 177 - 10/14/2025 02:45 PM - 3:05 PM - Wisteria
A New Way to Measure Octane: Lab & Process with CVCC Autoignition Technology
Connor Douglas - PAC
PAC has developed a new Constant Volume Combustion Chamber (CVCC) analyzer for the measurement of octane through autoignition. The analyzer determines both Research Octane Number (RON) and Motor Octane Number (MON) with excellent correlation to ASTM engine methods D2699 and D2700, while offering superior repeatability and reproducibility. This technology has been implemented in both laboratory and process analyzers, ensuring consistency across applications. Development work is currently underway toward establishing an ASTM standard method. The CVCC approach enables easier operation and delivers a significant reduction in octane giveaway, providing measurable value for modern refinery operations.

Abstract# 178 - 10/15/2025 02:20 PM - 2:40 PM - Wisteria
Shear Happens: Understanding instrumental limitations in rheology testing.
Irene Pena - Lummus Technology
In a perfect world, every sample would behave predictably, every curve would be smooth, and rheometers would deliver instant accurate answers. In reality? Shear happens. This presentation explores some of the limitations of rheological testing, especially when faced with unconventional samples. From issues like shear heating, edge fracture, slipping, and drying, we'll walk through real-world examples that highlight when to question the data.

Abstract# 179 - 10/15/2025 12:10 PM - 1:10 PM - Orchid
Implementing Raman Spectroscopy into Process Environments
King Chambers - ThermoFisher Scientific
This presentation will cover the theory of Raman spectroscopy and how it can be successfully implemented into various process environments. We will highlight the benefits of using Raman spectroscopy in different sampling modes and explore utilizing chemometric techniques to optimize the results in process monitoring. The presentation will highlight various applications in gas and liquid phase testing, including speciation and quantification. Considerations for successful implementation into various workstreams and hazardous environments will be explored.

Abstract# 180 - 10/14/2025 11:00 AM - 12:00 PM - Hibiscus
Process Raman AIO
King Chambers - ThermoFisher Scientific
This talk will highlight the theory of Raman Spectroscopy and outline several hardware innovations. It will outline the advantages of using Raman Spectroscopy in process and benchtop applications. The presentation will illustrate various accessories and Chemometrics used to solve problems using Raman.

Abstract# 181 - 10/15/2025 12:20 PM - 12:40 PM - Bluebonnet
Polypropylene - Understanding the Effects of Impurities in Propylene Feed and the Analysis of these Components
Dion Boddie - Lummus Technolgy
There are several impurities that are of consequence in propylene feed for polypropylene. Some of the specific impurities are CO, H2, propylene oxides, sulfur, oxygenates, etc. The integrity of the feedstock is a prerequisite for maintaining a consistent, profitable, and high-quality production chain. This presentation will be over the analysis of these impurities.

Abstract# 182 - 10/14/2025 09:30 AM - 9:55 AM - Hibiscus
Extending Insights to High-Boiling Fractions by Correlating CHNSO Composition with Oxygenates in Low-Boiling WPPOs
Amey Gonzalez - Lummus Technology
Accurate oxygen characterization is critical for evaluating waste plastic pyrolysis oils (WPPOs). Oxygen can enter from PET and other oxygenated plastic feedstock, residual water, secondary reactions during pyrolysis, or non-plastic residues like cardboard and food waste. Oxygen-bearing compounds in WPPOs influence acidity, corrosion, instability, and catalyst deactivation, which limit the direct integration into refining and petrochemical operations. A variety of methods exist for characterizing oxygen, but none provide a complete oxygen profile. CHNSO analysis is one of the most practical techniques: it is fast, applies across the full boiling range, and can measure higher-boiling fractions that other methods cannot but often leaves a portion unaccounted for. ASTM D7423, by contrast, provides molecular-level speciation, but is limited to fractions boiling below 200 °C. In this work, we compare CHNSO and ASTM D7423 and extend insights to high-boiling fractions by correlating bulk CHNSO composition with oxygenate content in low-boiling oils.

Abstract# 183 - 10/14/2025 02:50 PM - 3:20 PM - Tulip
On-line Raman Gas Analysis in Syngas and Hydrogen Production
Susan Harris - Endress+Hauser, Inc.
On-line process measurement of the composition of gas streams in refining, ammonia, and methanol plants is essential for the optimal operation of different process units within these facilities. Process analyzers based on gas chromatography, mass spectrometry, and electrochemical technologies are commonly used in these facilities. However, process conditions for certain streams present major challenges for these traditional technologies. Techniques based on optical spectroscopy, including near-infrared (NIR), infrared (dispersive and Fourier transform), and Raman spectroscopy, can provide analysis solutions for these challenging stream conditions. Raman spectroscopy is particularly useful for streams containing homonuclear diatomic gases, such as H2 and N2. The simpleness of the gas Raman technology gas methods verses model based chemometrics analysis will be shown. The end user can change stream compositions easily, change measurement cycle times, and recalibrate the system as needed if the process changes.

Abstract# 184 - 10/14/2025 02:50 PM - 3:35 PM - Iris
From Hours to Seconds - Process Raman is Revolutionizing Sour Water Monitoring
Dakota Merriles - HORIBA Instruments Incorporated
Sour water streams in petroleum refining pose operational and environmental challenges, with fluctuating H2S and NH3 levels affecting efficiency and compliance. Traditional ammonium sulfate monitoring depends on manual titrations, creating delays and data gaps. HORIBA's Process Raman technology offers continuous, real-time monitoring of H2S, NH3, and ammonium sulfate salts directly in the process line. By providing immediate visibility, refiners can

automate adjustments, optimize neutralization, and avoid costly upsets. This presentation will show how leading refiners use HORIBA Process Raman to enhance reliability, cut costs, and deliver measurable ROI through improved operational performance.

Abstract# 185 - 10/14/2025 12:40 PM - 1:25 PM - Iris
Determination of sulfur and nitrogen in Waste Pyrolysis Plastic Oil (WPPO) using UVF & Chemiluminescence technology
Mina Masaeli - PAC
In comparison to mechanical and biological technologies, plastic pyrolysis as part of a chemical recycling drew a great attention for its economic and environmental benefits. It can convert plastic waste into WPPO which can be used as a fuel or valuable raw petrochemical materials. A sample WPPO is shown in Figure 1. Pyrolysis is a possible route to utilize non-biodegradable materials as several countries are struggling with managing plastic waste. Pyrolysis of mixed plastic waste generates 50% less CO2 compared to energy recovery i.e., incineration. In addition, pyrolysis oil has several aromatic and aliphatic chemical components. Those components are quite diverse in their chemical properties as they may be cyclic, saturated, non-saturated, having long carbon chains and containing different elements such as sulfur, nitrogen, and oxygen. Analysis of the chemical elements in the WPPO is critical to value its environmental impacts. Sulfur and nitrogen can change the chemistry of the water by acidifying it and fertilize the soils. Consequently, it can negatively impact on the plants and the aquatic life. Moreover, sulfur and nitrogen can negatively impact oil refining processes by its corrosive effect and poisoning of the catalysts. Thus, it is of a great importance to quantify the sulfur and nitrogen content in the conventional and alternative energy sources.

Abstract# 187 - 10/14/2025 01:10 PM - 1:30 PM - Floral Hall A2
Nontarget Analysis of WPPO by GCxGC-HRTOFMS
Christina Kelly - LECO Corporation, John Hayes - LECO Corporation, Joe Binkley - LECO Corporation
Waste plastic pyrolysis oils (WPPO) are of growing interest as a source of more environmentally friendly alternative feedstock for producing chemicals and fuels. However, as WPPO are often produced from diverse sources with varying degrees of purity and cleanliness, more comprehensive analysis becomes necessary as compounds that are not typically found in traditional petrochemical sources can be present in these oils. Targeted screening is not enough to fully safeguard processes from potentially undesirable contaminants, which can reduce efficiency of reactions and foul production lines. To fully understand the chemical composition of such complex mixtures, nontargeted analysis is essential. This presentation focuses on analysis of WPPO using an unparalleled nontarget discovery tool: comprehensive two-dimensional gas-chromatography coupled to high-resolution time-of-flight mass spectrometry (GCxGC-HRTOFMS) capable of multi-mode ionization with electron ionization (EI), positive chemical ionization (PCI), and electron-capture negative chemical ionization (ECNI). This multidimensional analysis provides not only the enhanced chromatographic resolution of GCxGC, which separates individual oil components chromatographically in an easy-to-comprehend layout of fairways of similar chemical structures, but also the powerful analyte identification abilities of complementary ionization modes that can provide both detailed structural information and the high mass-accuracy molecular formulae for individual species.

Abstract# 188 - 10/14/2025 01:00 PM - 2:00 PM - Floral Hall A1
Next Generation Lab Operations using AI and Machine Learning
Ben Zumwalt - Agilent Technologies
Today's laboratories are under increasing pressure to do more with less — improve efficiency, eliminate downtime, increase throughput, and lower costs. Agilent CrossLab Connect is addressing that need by transforming how labs operate with real-time insights & alerts, live dashboards, centralized asset visibility, smart reports, performance tracking, and capacity monitoring. This session will explore how CrossLab Connect empowers labs—in sectors like petrochemicals, contract testing, government, and academia—to streamline operations, increase throughput, decrease turnaround time, minimize the effects of disruption, and increase lab profitability. Attendees will learn how to leverage cloud-based AI analytics, proactive & predictive maintenance, and operationalize live power-based monitoring to align lab performance with business goals. Whether you're managing a single site or a global network, discover how CrossLab Connect can help you get results.

Abstract# 189 - 10/14/2025 08:50 AM - 9:20 AM - Floral Hall A1
How to Choose Proper FTIR Spectroscopic Techniques to Analyze Petroleum Products
Sofia Givelos - Agilent Technologies
Fourier transform infrared (FTIR) spectroscopy is a versatile tool used to characterize petroleum products by quantifying additives, detecting contaminants, monitoring degradation byproducts and fighting adulteration. FTIR spectroscopy has become a widely used technique for quickly assessing petroleum product characteristics, and yet many people don't fully understand how it works and how to make it more efficient. Due to the different properties and testing goal, it is critical to choose the proper technique to facilitate the analyze of petroleum products. This presentation provides a comprehensive introduction to the FTIR testing techniques and how to choose the proper FTIR techniques to satisfy different petroleum product analysis.

Abstract# 190 - 10/14/2025 08:00 AM - 8:20 AM - Floral Hall A1
ASTM D5769 Using the Agilent 8850 GC and 5977C GC/MSD with Hydrogen Carrier – Speed Meets Small Formfactor
Scott Hoy - Agilent Technologies
This presentation will demonstrate the quantification of benzene, toluene, and total aromatics in motor gasoline by ASTM D5769 with a run time of nine minutes using the 8850/5977C GC/MSD with hydrogen carrier gas. At two-thirds the width of a standard GC/MSD system, the 8850/5977C GC/MSD is the smallest available solution for ASTM D5769. The 5977C GC/MSD produced excellent linearity achieving a minimum R2 of 0.9999 for all 24 individual aromatic species, including toluene. Additional system performance metrics include method precision, resolution, and sensitivity for low concentration components.

Abstract# 191 - 10/15/2025 09:00 AM - 9:20 AM - Floral Hall A1
Achieving Superior Chromatographic Data in the GC/SCD Analysis of ASTM D5623-Relevant Sulfur Compounds: Best Practices and Insight
Kyra Murrell - Agilent Technologies, Brent Casper - Agilent Technologies
Gas chromatography (GC) coupled with Sulfur Chemiluminescence Detector (SCD) is a powerful analytical technique for the identification and quantification of volatile sulfur compounds relevant to ASTM D5623. The Agilent 8890 GC with the 8355 SCD delivers a linear and equimolar response across a wide range of sulfur-containing analytes. This presentation highlights the expected performance for 19 discrete sulfur compounds and outlines best practices to consistently achieve superior chromatographic data.

Abstract# 192 - 10/14/2025 08:20 AM - 8:50 AM - Floral Hall A1
Optimizing Elemental Analysis of Oils and Organic Solvents by Smart ICP-OES
Dr. Sima Singha - Agilent Technologies
Direct elemental analysis of organic solvents by an ICP-OES can be challenging for several reasons ranging from plasma stability, carbon deposition on the injector and torch, and complex spectral interferences from carbon emission lines. However, the analysis of neat organic solvents in the Petrochemical, Lithium Ion Battery, and Food Industry is common as it is an alternative to the time-consuming digestion/ashing methods, which may have significant dilution factors that elevate the detection limits. This talk will discuss how a Smart ICP-OES like the Agilent 5800/5900 instruments can easily overcome these issues through selection of proper sample introduction system, optimized method parameters, and intelligent background and interference correction techniques.

Abstract# 193 - 10/15/2025 08:00 AM - 8:30 AM - Floral Hall A1
Fast, Reliable and Versatile – Can Agilent Micro GC 990 Really Deliver It All?
Felipe Chagas - Agilent Technologies, Kelly Beard - Agilent Technologies
What if gas analysis could be faster, more reliable, and versatile, all in a single instrument? Rapid and accurate gas analysis is critical across multiple markets, including industrial process monitoring, hydrogen fuel quality control, and environmental applications. The Agilent Micro GC 990 combines fast analysis times, reliable performance, and versatile multi-application capability in a compact, field-deployable platform. Drawing on real-world case studies from numerous Micro GC installations, this presentation highlights the instrument's technical innovations, accessory options, and practical applications that make the Micro GC 990 a flexible solution for laboratory, online, and mobile gas analysis. Join this session to discover how the Agilent Micro GC 990 is redefining gas chromatography, delivering fast, reliable, and versatile solutions that meet the evolving demands of modern industries.

Abstract# 194 - 10/15/2025 08:30 AM - 9:00 AM - Floral Hall A1
Sensitive Detection of Volatile Fatty Acids in High Ionic Water Matrix using Ion Chromatography hyphenated with Single Quad Mass
Sue Dantonio - Agilent Technologies, Jay Gandhi - Metrohm USA
Ion Chromatography has been an analytical tool since 1975. At least for the last two decades, ion chromatography has been hyphenated with mass spectrometer (IC-MS). Since then it has enabled the scientists to expand the horizon of analytical science. In this poster presentation, authors will highlight several applications using IC-MS as tool for advanced detection, especially highlighting Volatile Fatty Acids (VFA) in high ionic water matrices.

Abstract# 195 - 10/14/2025 12:00 PM - 12:40 PM - Iris
Advancements in Combustion-Ion Chromatography: Efficiency, Sensitivity, and Scope
Carl Fisher - Thermo Fisher Scientific
Combustion-Ion Chromatography (C-IC) has been a valuable analytical tool since its inception in the 1980s, originally used for monitoring sulfur and halogens in fuels and ores. Recently, C-IC has gained prominence as a powerful technique for screening per- and polyfluoroalkyl substances (PFAS) contamination in waste streams and consumer products. This seminar will provide an overview of C-IC, emphasizing its advantages such as automation, sensitivity, and efficiency. Additionally, the discussion will cover the scope and limitations of C-IC across various applications, with a particular focus on its current use in environmental and industrial analysis.

Abstract# 197 - 10/14/2025 09:25 AM - 9:55 AM - Floral Hall A2
Advancing Fluorine Quantification in WPPO: A Novel Combustion-AAS Approach
Jesus Acapulco - Analytik Jena, Jesus Acapulco - Analytik Jena, Jess Gantt - Analytik Jena, Simone Moos - Analytik Jena, Olga Weisheit - Analytik Jena
The shift from fossil-based to alternative feedstocks such as waste plastic has introduced new contaminants into refinery processes. Among these, fluorine (F) is a major concern. Currently, combustion ion chromatography (CIC) is the standard method. However, it is costly to purchase and operate, while analysis times are long limiting sample throughput.
This presentation introduces a novel approach for determining fluorine in waste plastic pyrolysis oil (WPPO). The method involves combustion of the WPPO sample, after which halogens are quantitatively captured in an absorber solution. This solution is then analyzed using a high-resolution continuum source atomic absorption spectrometer. The instruments used in this process are called ICprep, which features self-optimizing combustion, and contrAA 800 G, which is also suitable for metal analysis and can handle smaller sample volumes than ICP-OES.
We demonstrate that CIC and the novel “ICprep + contrAA” method yield comparable fluorine concentrations in WPPO. Additionally, sample throughput increases by a factor of 3 using the new approach.

Abstract# 198 - 10/14/2025 12:30 PM - 1:00 PM - Floral Hall A1
Analysis for Impurities in Fuel Cell Grade Hydrogen by Gas Chromatography
Senia McPherson - Bureau Veritas Fuels Division, Shannon Coleman - Agilent Technologies
In this presentation we will describe the successful development of gas chromatography solutions for the analysis of trace impurities in fuel cell grade hydrogen in collaboration with Agilent Technologies

Abstract# 199 - 10/14/2025 09:20 AM - 9:50 AM - Floral Hall A1
Low Level, ppb, Determination in Refined Oils using the Agilent VDV ICP System and Muli-Variate Matix Correction
Paul Krampitz - Agilent Technologies
Wear metals in oil is a common application using ICP. The levels are relatively high and most needs are for trend analysis. However, this presentation will focus on single digit ppb analysis in refined and distilled oils. Presentation will include data and tips to run low level analytes in an organic matrix. We will discuss how to remove elevated background and increasing the signal to noise ratio in organics.

Abstract# 202 - 10/15/2025 12:40 PM - 1:00 PM - Bluebonnet
Fit-for-purpose chromatography in petrochemical monitoring and characterisation
Matthew Edwards - SepSolve Analytical, Laura McGregor - SepSolve Analytical, Khaled Murtada - SepSolve Analytical, Jonathan Grandy - SepSolve Analytical, Anthony Buchanan - SepSolve Analytical
Petrochemical analysis requires fit-for-purpose workflows, as no single GC method can address the full range of operational demands. For process monitoring, speed and robustness are vital. Hyper-fast GC, enabled by flow-field thermal gradient technology, delivers sub-minute cycle times with sharp peaks, enabling near real-time detection of refinery upsets. Where deeper compositional knowledge is required, GC×GC provides unrivalled resolving power – supporting group-type quantification with FID or confident identification of trace components with TOF MS. This presentation highlights how hyper-fast GC and GC×GC complement one another, supported by integrated software to streamline method development and decision-making.

Abstract# 204 - 10/14/2025 11:35 AM - 11:55 AM - Floral Hall A2
Oxygen & CHNS Elemental Analysis of Waste Plastic Pyrolysis Oil: Challenges, Solutions, and Standardization
Moritz Kreinbihl - Elementar Analysensysteme GmbH, Jan Hartwig - Elementar Analysensysteme GmbH
Elemental analysis of carbon, hydrogen, nitrogen, sulfur (CHNS) & oxygen is essential for understanding the composition and fuel potential of Waste Plastic Pyrolysis Oil (WPPO). These parameters guide quality assessment and downstream processing compatibility. WPPO, however, poses analytical challenges due to its complex and variable composition, particular for oxygen determination at very low concentrations. Practical insights are shared on addressing these challenges, supported by our solution that combines optimized instrumentation with tailored methodologies for robust, reproducible results. Remaining obstacles in standardization are discussed, underscoring the urgent need for reliable norms to ensure harmonized WPPO analysis.

Abstract# 207 - 10/15/2025 01:00 PM - 1:25 PM - Bluebonnet
GCVUV Simulated Distillation
Dan Wispinski - VUV Analytics, Derrell Sloan - VUV Analytics
A new gas chromatography with vacuum ultraviolet absorption spectroscopy detection (GC-VUV) technique for determining simulated distillation of middle distillates will be introduced. Traditional gas chromatography simulated distillation uses a non-polar column to elute components in order of boiling point. The known boiling points of n-paraffins are used to calibrate the time axis. The boiling range distribution of a sample run under the same conditions can thus be obtained. GC FID simulated distillation uses cumulative time slices to determine BP distribution and cut points. ASTM D8267 (aromatics in jet fuel) and ASTM D8368 (aromatics and FAME in diesel fuel) are specification approved GCVUV methods that use time interval deconvolution to determine hydrocarbon types. These GCVUV sequential time intervals contain holistic hydrocarbon type quantitative information. A new GCVUV software feature allows the calculation of BP distribution and cut point intervals without modification of the standard GCVUV instrument parameters. The BP data is available in total % off by mass and volume. Additionally, a saturates only and aromatics only BP distribution can also be obtained. GCVUV BP distribution data will be compared to ASTM D2887 BP distribution data from jet fuel and diesel fuel proficiency test samples.

Abstract# 208 - 10/14/2025 08:00 AM - 8:25 AM - Tulip
Quantitating Aromatics in Jet Fuel –the ASTM Multi-Method Study Outcomes
Dan Wispinski - VUV Analytics, Alex Hodgson - VUV Analytics
ASTM has undertaken a large precision study for aromatics in jet fuels. The principal objective is a new precision statement for the referee ASTM D1319 FIA method. The study’s secondary objective is a D6708 bias evaluation of four alternate aromatics methods against the D1319 method. Samples common to all aromatics methods are used in the studies. This presentation will present the D1319 outcome and discuss the results of the clear winner of the alternate aromatics methods – the ASTM D8267 Standard Test Method for Determination of Total Aromatic, Monoaromatic and Diaromatic Content of Aviation Turbine Fuels Using Gas Chromatography with Vacuum Ultraviolet Absorption Spectroscopy Detection (GC-VUV). A new precision statement and expanded scope ranges for D8267 have been achieved allowing D8267 to be used for aromatics at the 0.5% mass level in synthetic alternate jet fuels (SATF) and for diaromatics (naphthalenes) in conventional jet fuel. The presentation

will also discuss a revision with precision for isopropylbenzene (cumene), an important compound for carcinogenic classification in Europe.

Abstract# 209 - 10/15/2025 01:25 PM - 1:50 PM - Bluebonnet
GCVUV Methods – Future Forward
Dan Wispinski - VUV Analytics, Sean Jameson - VUV Analytics
Forward Abstract Standard methods, specifications and regulations are live documents – constantly changing to adapt to new technology and industry requirements. VUV Analytics must constantly strive to meet the need to revise, update and produce new methods. This presentation will focus on future revisions and new GCVUV methods. The interlaboratory study (ILS) process to obtain precision (repeatability and reproducibility) will be explained. The application of the ILS process to GCVUV method D8071 to expand benzene and aromatics ranges and include aviation gasoline in the scope will be discussed. A description of the ILS for GCVUV method ASTM D8519 hydrocarbon types in waste plastic pyrolysis oil will be provided. Updates on ASTM D8267 aromatics in jet and ASTM D8368 revisions will also be discussed. Standardization is a consensus process so come prepared to have an interactive discussion on your needs for existing and future methods using VUV technology.

Abstract# 212 - 10/15/2025 09:05 AM - 9:25 AM - Wisteria
"Now We're Cooking with Gas!" Pyrolysis GCxGC-MS of Polyolefins.
Robert Cody - JEOL USA, Inc.
Thermal desorption and pyrolysis (TD/PY) is a valuable method for materials analysis with gas chromatography and mass spectrometry (GC-MS). Polymers are identified by their pyrograms and pyrolysis products. GCxGC-MS is a useful approach to monitor pyrolysis reactions on a small scale and characterize the products of pilot-plant pyrolysis. High-resolution mass spectrometry and soft ionization methods (chemical ionization, photoionization, and field ionization) are essential tools for the identification of unknowns in these complex mixtures. Taking a completely different perspective, soft ionization and pyrolysis with a deactivated fused silica column shows high-molecular-weight pyrolysis products that are not detectable by GC-MS or GCxGC-MS

Abstract# 213 - 10/14/2025 02:15 PM - 3:15 PM - Bluebonnet
How to convert your ISO 9001- QMS into a Profitability Engine
Wali Alam - QUALITY INSTITUTE OF AMERICA, INC.
Since 1987, tens of thousands of companies have implemented Management Systems based on ISO 9001 and related standards (13485, API, 17025, 16949, AS 9100 and others). Most of these are static. They are not moving upwards. This Paper will dig deeper into the structure and requirements of the Standard, which after all is focused on Continuous Improvement. It will show how and where to collect data and processes that can help identify areas of opportunities. It will then show how to employ simple but powerful tools to systematically and continuously improve productivity and profitability.

Abstract# 214 - 10/14/2025 02:25 PM - 2:50 PM - Iris
Phosgene Analysis in Ambient Air – Theoretical to Field Application
Monique Mahoney-Ashberry - Process Insights, Inc., Jenee Jacobs - Process Insights, Inc., Chris Williams - Process Insights, Inc., Chuck DeCarlo - Process Insights, Inc.
Phosgene ($COCl_2$) is a highly toxic industrial chemical of significant concern in both occupational and environmental monitoring. This presentation highlights the development and implementation of a quadrupole mass spectrometry (QMS)–based installation for the detection and quantification of phosgene in ambient air. Emphasis is placed on the transition from controlled laboratory case studies using industrial QMS systems to successful field deployment. Key aspects include instrument configuration, calibration strategies, sensitivity in real-world conditions, and sample handling. The results demonstrate the viability of QMS as a robust, real-time monitoring solution for phosgene in ambient air across diverse operational environments.

Abstract# 215 - 10/15/2025 02:20 PM - 2:50 PM - Bluebonnet
Rethinking Routine: Practical Strategies to Boost GC Productivity
Whitney Dudek-Salisbury - Restek Corporation
Laboratories are under increasing pressure to enhance productivity and sustainability while simultaneously reducing operational costs. Achieving these goals can be challenging, but even small, strategic changes can yield significant improvements when the appropriate techniques are applied. Approaches such as optimizing column selection to shorten analysis times, transitioning from helium to hydrogen as a carrier gas, or reducing helium consumption can effectively lower costs and boost efficiency. This presentation explores practical, incremental strategies that empower laboratories to make a substantial impact through manageable, low-barrier adjustments.

Abstract# 216 - 10/15/2025 02:50 PM - 3:10 PM - Bluebonnet
Head-to-head comparison of DHA to ASTM D8369 Verified Hydrocarbon Analysis (VHA) Using Helium and Hydrogen Carrier Gases.
Ryan Schonert - VUV Analytics
Verified Hydrocarbon Analysis (VHA, ASTM D8369) offers an alternative to traditional DHA that delivers better accuracy and precision - through vacuum ultraviolet (VUV) spectral verification and an automated analysis - in a fraction of the time. A recent study directly comparing VHA and DHA highlights the ease of use and superior results obtained from VHA. Additional comparisons were performed for each method using hydrogen carrier gas, demonstrating VHA's analytical flexibility with spectrally verified results.

Abstract# 217 - 10/14/2025 09:15 AM - 9:35 AM - Tulip
Simple and Effective Measurement of Water Content in Fuels Using GC-LUMA™
Annika Dombrowski - VUV Analytics
Water in petrochemical and refinery streams can cause problems for processors. Monitoring water in petroleum from an upstream source to the downstream processing plant is critical to insure uninterrupted operation. While water analysis is normally done by Karl Fischer titration, matrix effects from sulfurs and oxygenates may interfere with the titration and yield inaccurate results. Furthermore, the use and disposal of Karl Fischer reagents contribute to increased costs and environmental burden. A GC analysis paired with the LUMA™ detector provides a simple solution to measure trace water in fuels while bypassing matrix interferences and reducing the need for additional chemical reagents to obtain results.

Abstract# 218 - 10/15/2025 12:15 PM - 1:15 PM - Iris
Automating your Current QMS (ISO, API, AS, IATF and Others)
Wali Alam - QUALITY INSTITUTE OF AMERICA, INC., Golam Alam - QUALITY INSTITUTE OF AMERICA, INC.
Since 1987, tens of thousands of companies have implemented Management Systems based on ISO 9001 and related standards (13485, API, 17025, 16949, AS 9100 and others). Even in these automated times, most companies are content with manual systems where humans send e-mails, track activities, monitor performance, and take corrective actions, etc. This presentation will show how to build and use a computerized system that will assign tasks, monitor and manage execution, measure performance, keep records, vastly reduce need to audit etc. Most of all, assist in making powerful decisions with AI.

Abstract# 221 - 10/15/2025 09:05 AM - 9:30 AM - Iris
Critical Considerations for Successful In Situ Liquid Process Sampling for Spectroscopy
Ryan Lerud - Process Insights, Chuck DeCarlo - Process Insights
A sample interface that fouls or otherwise provides inconsistent or inaccurate measurements provides little benefit for process quality applications in oil refineries and downstream chemical manufacturing. The selection of the sampling interface needs careful attention to ensure the proper function of the analyzer. Considerations include material compatibility of wetted parts, temperature and pressure ratings, serviceability, flow requirements (Reynolds number and density), and direction of flow relative to the optical path. Discussion will focus on the fiber optic-based process spectroscopy of semitransparent liquids suitable for transmission measurements, with specific examples from a diesel fuel blending process, and from a synthetic fiber manufacturing facility. When considering a fit-for-purpose NIR or UV/VIS sample interface, care must be taken to ensure the vendor design constraints match your requirements. Differences between the sample interface in the lab and the in situ probe can cause the disagreement between the lab and the process.

Abstract# 222 - 10/14/2025 08:00 AM - 8:25 AM - Iris
Process Analyzers for Carbon Capture Utilization and Sequestration (CCUS) Control and Compliance
Chuck DeCarlo - Process Insights
Liquid and gas sampling and analysis is critical to the successful control of Carbon Capture, Utilization and Sequestration (CCUS) processes and for accurately reporting the amount of carbon successfully captured. Here we'll discuss how several analyzer technologies are used at CCUS sites, including mass spectrometers, Fourier Transform Infrared (FTIR), Near Infrared (NIR), and Cavity Ring Down Spectroscopy (CRDS) analyzer systems. We'll review where these technologies are deployed, and how the site uses the data, as well as what factors for sampling and analysis are most critical for operational efficiency and tax credit reporting.

Abstract# 225 - 10/14/2025 01:00 PM - 1:20 PM - Wisteria
Biogenic carbon content measurement from solid and liquid samples
Ari Lehmusvuori - Hidex Oy
The Hidex Biofuel Method, a direct liquid scintillation counting (LSC) approach for determining biogenic carbon in fuels without a fuel-specific background sample. The mix-and-measure method combines TDCR output with an external-standard quench parameter to reliably predict background and counting efficiency for each unknown. Samples are prepared by mixing fuel with scintillation cocktail and counted in Hidex 300SL or ULLA TDCR instruments. Across fuels and blends spanning ~1–100 bio-%, results matched accelerator mass spectrometry, with detection limit down to ~1 bio-%. In addition, solid and strongly coloured liquid samples can be measured using Hidex Oxidizer and ULLA LSC counter.

Abstract# 226 - 10/15/2025 08:45 AM - 9:05 AM - Iris
New requirements in asphaltene stability and compatibility measurement of crude oil and marine fuel oils
Jaakko Lehtinen - Auramarine Ltd
Importance of stability and compatibility measurement has raised its head again lately both in refinery and marine industries. Oil supply disruption can be caused for example by pandemic or political conflict leading refineries facing variance in crude oil. On the other hand, marine fuel has undergone a big change with the implementation of maximum 0,50 % sulfur in 2020. PORLA stability and compatibility analyser can be used in several applications in refineries. The asphaltene precipitation point can be accurately determined according to ASTM D7112. The titration and optical detection are fully automated requiring only minimal sample preparation from the user.

Abstract# 227 - 10/14/2025 02:15 PM - 2:50 PM - Tulip
Varied Introduction of Polymers to a GC-MS using a Multi-functional Pyrolysis System
Karen Sam - CDS Analytical
Gas chromatography (GC) may not be the natural choice for polymer analysis, unless the analyst adds a pyrolyzer, which uses thermal energy to activate bond cleavage, turning non-volatile material into volatile fragments. Furthermore, a pyrolyzer that can perform other types of thermal sampling, such as thermal desorption, dynamic headspace, sampling reactant atmospheres, and even how a polymer changes under UV exposure, can enhance a GC's functionality to better understand any polymeric material. This training course will cover different analytical techniques using a pyrolyzer that has many functionalities.

Abstract# 228 - 10/14/2025 09:05 AM - 9:25 AM - Floral Hall A2
Supercritical Fluid Chromatography with Flame Ionization Detection (SFC-FID) - Providing Analytical Solutions for the Fuel Product
Jody Clark - Selerity Technologies
Based on the established ASTM standard testing methods, the benefits of "group-type" separations by supercritical fluid chromatography have been recognized as a viable technique. It can be utilized for solutions to identify the new generation of fuels, including Pyrolysis Oils. Analytical techniques are needed to characterize the resulting product from the pyrolysis process. In this presentation, I will discuss a hybrid method between ASTM D5186 and ASTM D6550 for a "group-type" separation of pyrolysis oils made from recycled plastics. The sample will be grouped into saturates, olefins, aromatics and polynuclear aromatics.

Abstract# 229 - 10/14/2025 09:35 AM - 9:55 AM - Tulip
D2425-Supercritical Fluid Chromatography with Flame Ionization Detection Coupled to a Quadrupole Mass Spectrometer (SFC-FID-MS)
Jody Clark - Selerity Technologies
D7566 specifies the properties of selected hydrocarbon types (paraffins, cycloparaffins, and aromatics) for renewable aviation fuels to be measured by ASTM D2425. D2425-19 is an analytical technique using mass spectrometry (MS). The separation is not well-defined and has proven difficult. D8305 is accepted in D7566 for the measurement of aromatic hydrocarbons in aviation turbine fuels. A simple modification can be made to D8305 to split the flow eluting from the column to the FID, for the mass percent and the MS for the mass spectrum used in the calculations for D2425. The SFC-FID-MS will be discussed for D2425.

Abstract# 230 - 10/14/2025 08:20 AM - 8:50 AM - Daffodil
A Novel GC-Combustion-MS with Isotopic Labelling Technique for the Analysis of Oxygenates in Fuels and Biofeedstocks
Tyler Roberts - Shimadzu Scientific Instruments
Oxygenates are critical markers of feedstock quality, process performance, and product stability across fuels, chemical recycling, and biobased materials. Yet their detection remains difficult. Complex matrices and diverse structures challenge traditional tools like O-FID and conventional MS, which often lack equimolarity, selectivity, or matrix robustness. This talk presents new data generated using the ELEM-SPOT™ system—a GC-Combustion-MS platform employing isotopically labeled oxygen ($^{18}O_2$) during combustion for equimolar, compound-independent oxygen quantification. Coupled with full MS structural characterization, the approach enables both accurate quantitation and untargeted identification of oxygenates, offering new process insight and improved control for advanced fuel and chemical workflows.

Abstract# 231 - 10/14/2025 01:35 PM - 1:55 PM - Daffodil
Ion Chromatography Applications for the Energy Market – Robust, Sensitive and Flexible Solutions
Evgenia Barannikova - Shimadzu Scientific Instruments
Ion chromatography (IC) remains a primary technique for analyzing contaminant ions and other charged particles with critical relevance for Energy applications. This presentation highlights IC as a robust and reliable solution. With increasing biofuel demand, IC is a convenient technique to monitor chloride and sulfate in fuel ethanol utilizing ASTM D7319. Additionally, analysis of anions in engine coolants with ASTM D5827 demonstrates the benefits of a UV detector for complex matrices and improved detection limits. Finally, the utility of IC in a rapidly growing Li-ion battery market is demonstrated by analysis of electrolytes, their degradation products, and recycled battery materials.

Abstract# 232 - 10/14/2025 09:20 AM - 9:50 AM - Daffodil
ASTM D8110: Determination of Trace Elements in Petroleum Products Using ICP-MS
Jon Peters - Shimadzu Scientific Instruments
Metal elements in petroleum products must be precisely monitored to prevent catalyst poisoning, ensure product quality, and minimize environmental impact from emissions. ICP Optical Emission Spectrometry (ICP-OES) is traditionally used, but increased sensitivity demands necessitate ICP Mass Spectrometry (ICP-MS) for trace elemental analysis. ICP-MS analysis in an organic matrix can prove to be an analytical challenge. In this presentation, we will cover practical considerations for metal analysis by ICP-MS in organic fuel matrices, including suppression for both polyatomic interferences and carbonization. A standard configuration was utilized to analyze diesel and light petroleum distillates according to ASTM D8110.

Abstract# 233 - 10/14/2025 08:50 AM - 9:20 AM - Daffodil
Advances in Software for DHA and PONA Analysis – Improved Compound Identification for Simplified Workflows.
Thy Nguyen - Shimadzu Scientific Instruments
DHA and PONA analysis offers valuable insights into fuel quality and blending characteristics. However, identification and classification of these components is time-consuming and complex. PONASolution is a fully integrated software add-on designed to streamline DHA data analysis. This talk highlights features such as built-in retention index libraries for multiple ASTM methods and tools for compound identification support, multi-dataset summary reporting, and efficient data management. All peak integration parameters, identification

New Product Showcase

2024 New Product Showcase Winner

CE Elantech

Best New Analytical Instrument

GasSite CompactGC 4.0

2025 New Product Showcase Entries

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Applied Rigaku Technologies, Inc.

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settings, and results are stored in a single data file. This enables a seamless, end-to-end analytical workflow without the need for cross-platform data transfer, facilitating laboratory efficiency and reducing workflow complexity.

Abstract# 234 - 10/14/2025 12:00 PM - 12:45 PM - Daffodil
Total Organic Carbon and Total Nitrogen: Hardware Options for Maximum Performance
Ricky Frnka - Shimadzu Scientific Instruments
Shimadzu is the world's leading manufacturer of total organic carbon analyzers. The TOC-L analyzers are customizable, robust, and sensitive, making them suitable for a variety of applications including water monitoring in petrochemical industries. In this presentation, we will share how Shimadzu TOC can (1) Increase productivity with a combination of robust hardware and Shimadzu's all new LabSolutions TOC Software; (2) Expand analysis capabilities for difficult matrices using specialized hardware for samples with high suspended solids, high salt, halogens, or dirt and soil (3) Replace traditional Total Kjeldahl Nitrogen (TKN) measurement with a safer, faster, and more accurate instrumental analysis.

Abstract# 235 - 10/15/2025 09:25 AM - 9:50 AM - Wisteria
Full Flow Ahead: Flow-Modulated GCxGC Without Splitting on a Quadrupole Mass Spectrometer
Kirk R. Jensen - JEOL USA, Inc.
In typical flow-modulated GCxGC-MS, the GC flow must be split prior to introduction into the MS, because the pumping capacity of the MS can't handle the high flow rate. Splitting GC flow increases the complexity of the measurement, and may be undesirable when maximum sensitivity is required. Flow-modulated GCxGC was tested without flow splitting on a quadrupole MS that can accept a high flow rate. Results detailing the effectiveness of the method will be presented, as well as its application to petroleum samples.

Abstract# 236 - 10/14/2025 08:00 AM - 8:20 AM - Daffodil
ASTM D1840 & D6258 – Easily and Confidently Quantify Aromatics and Dyes in Fuels with One UV-Vis Spectrometer
Liang Zhao - Shimadzu Scientific Instruments
UV-Visible spectrophotometry is critical to laboratories conducting fuel quality assessments due to speed, sensitivity, flexibility, and low costs. Naphthalene contributes to combustion efficiency but is also a known precursor to soot emissions, prompting the development of ASTM D1840. Solvent Red 26 is used to differentiate off-road diesel fuel for tax and regulatory enforcement. ASTM D6258 specifies a second derivative UV-Vis method to confirm presence and concentration. This talk details how UV-Vis spectrophotometry is used for precise execution of both ASTM D1840 and D6258, with detailed method parameters, instrument configuration, derivative spectral processing, and calibration workflows, system reproducibility, and linearity.

Abstract# 238 - 10/14/2025 12:45 PM - 1:15 PM - Daffodil
Quantifying microplastics in Texas bays and estuaries using pyrolysis GC-MS
Zhanfei Liu - The University of Texas at Austin
Pyrolysis GC/MS has become the "go-to" tool for quantifying microplastics in environmental samples, yet there are many challenges in sample pretreatment in order to isolate the plastics from the sample matrix, and analytically as well. In this talk, I'll specifically talk about our recent experience dealing with plankton tow samples from Texas bays and estuaries using pyrolysis GC/MS. I will also talk about how pyrolysis GC/MS can be used to identify additives or plastic degradation products, in addition to plastic identification and quantification.

Abstract# 239 - 10/14/2025 02:10 PM - 2:35 PM - Floral Hall A2
Square Pegs in Round Holes: Challenges in WPPO Analysis in the Commercial Market
John Zuber - Brightmark
The commercial production of waste plastic process oils (WPPO) presents a currently difficult-to-solve problem for product analysis for sale to the market. Many traditional analysis methods that the larger petroleum industry is comfortable and familiar with do not directly apply or fully capture the critical aspects of quality demanded for end users, whether as an intermediate product for further processing into refined products or as an end use product. Detailed within is a summary of Brightmark's experiences selling WPPO into the market, along with a discussion of helpful goals for future industry improvements to WPPO analysis.

Abstract# 240 - 10/14/2025 03:05 PM - 3:35 PM - Wisteria
TOC Analysis Under Pressure: Tackling Salinity and Particulate Challenges in Petrochemical Applications
Jessica Gantt - Analytik Jena, Bernd Bletzinger - Analytik Jena
Refinery labs face increasing high throughput demands despite challenging sample matrices and limited operator availability. Petrochemical wastewater and brines are monitored for Total Organic Carbon (TOC) to ensure compliance with environmental regulations and to protect downstream reuse or disposal pathways.
High salinity and particulates in these samples can disrupt TOC analysis and increase maintenance demands. This presentation outlines strategies for optimizing TOC workflows using two high-temperature combustion systems with NDIR detectors. Designed for demanding petrochemical applications, the multi N/C 3300 features a salt kit that prevents corrosion and extends maintenance intervals, while the multi N/C 2300 specializes in the direct injection of particle-rich samples. The reverse rinse function and Self Check System work together to flush residues and proactively monitor system health, ensuring consistent performance with minimal operator intervention.
The talk will include case studies from Gulf Coast refineries, highlighting practical approaches and instrument configurations that have successfully supported TOC analysis under challenging conditions.

Abstract# 241 - 10/14/2025 12:45 PM - 1:30 PM - Tulip
Why 30 Points for SQC?
Alex Lau - Baytek
This brief seminar will provide a simple overview on the concept of 'degrees of freedom (df)' for the standard deviation statistic s , how df can be combined (pooled) from multiple s statistics, and why a minimum df of 30 is specified for repeatability (r) and reproducibility (R) statistics in ASTM D6300 (Standard Practice for Determination of Precision and Bias Data for Use in Test Methods for Petroleum Products and Lubricants).

Abstract# 242 - 10/14/2025 01:30 PM - 2:15 PM - Tulip
Why Ordinary Linear Regression should not be used to develop a correlation between test methods
Alex Lau - Baytek
This brief seminar will provide a simple overview of the common uses and fundamental assumptions behind Ordinary Linear Regression (OLR), followed by an explanation of why the ReXY (Regression with errors in X and Y) technique in ASTM D6708 (Practice for Statistical Assessment and Improvement of Expected Agreement Between Two Test Methods that Purport to Measure the Same Property of a Material) should be used instead.

Abstract# 243 - 10/15/2025 08:00 AM - 8:40 AM - Wisteria
Learning the Tips and Tricks of Sample Introductory Techniques such as Headspace and Thermal Desorption for Gas Chromatography
Lee Marotta - PerkinElmer, Leeman Bennington - PerkinElmer
Gas Chromatography (GC) sample introduction techniques such as headspace (HS) and automated thermal desorption (ATD) are very easy useful tools for the investigation of compounds in many matrices and products whether the requirement is product quality or toxic compound investigation. There are several benefits using HS and ATD to attain information. They are less labor intensive providing enhanced productivity; they optimize sensitivity because they automate concentration; and they require little to no solvents rendering them environmentally friendly. This presentation is a learning experience which will introduce the theory, functionality and methods of these technologies. Several applications will be discussed to enhance the method development experience.

Abstract# 245 - 10/15/2025 08:30 AM - 10:00 AM - Floral Hall A2
Driving Lab Efficiency, Reliability, and Cost Savings with Advanced ICP-OES and ICP-MS Nebulizers
Sergei Leikin - Texas Scientific Products, Jesus Acapulco - Analytik Jena, Randy Rarig - Ketjen Corporation, Jerome Franks - Hunt Refining
1. How Different Pneumatic Nebulizers Affect your ICP-OES Elemental Analysis: From Crude Oils to Brine Samples. By Jesus Antonio Acapulco Jr, Application Specialist at Analytik Jena US LLC. The nebulizers used in inductively coupled plasma – optical emission spectroscopy (ICP-OES) has undergone significant transformation in recent years, driven by technological innovation, regulatory demands, and expanding applications across industries. The study focuses on two pneumatic nebulizers. The challenges of analyzing

real world samples from difficult crude oils to brines with high total dissolved solids (TDS), are presented and discussed.
2.Tired of Clogged Nebulizers? The Effect of Novel Nebulizers on Challenging Organic ICP-OES and High TDS Aqueous ICP-MS Samples. By Randy S Rarig Jr. Ph.D. Global Physical Analysis R&T Advisor at Ketjen Corporation. Analytical laboratories increasingly face challenging samples that demand both lower detection limits and faster turnaround. These samples are often difficult to digest or dissolve, leaving residual particulates and solutions with high total dissolved solids (TDS). As a result, clogged nebulizers interrupt analyses, requiring cleaning or unblocking and reducing overall productivity. Novel nebulizers have been applied to address these challenges, demonstrating strong resistance to clogging and enabling continuous operation with little to no downtime. The result is increased throughput, faster turnaround, greater reliability of results, and enhanced confidence in data quality—benefits critical to any analytical laboratory.
3. Cutting Costs and Downtime with Robust Low Maintenance ICP-OES Nebulizer. By Jerome Franks, LabTech1 Supervisor at Hunt Refining Inc. A refinery analytical laboratory processes a wide variety of petrochemical samples, from crude oil to light, heavy, and gas oils, as well as diesel and naphtha. Previously, extensive maintenance and daily cleaning were required, while frequent nebulizer blockages led to replacement of several units per month and costly downtime. Since implementation of a robust nebulizer, the laboratory has handled all sample types reliably, requiring cleaning only once every two months with no replacements. This transition eliminated recurring costs, reduced personnel workload, and significantly improved laboratory efficiency and overall operational reliability.

Abstract# 247 - 10/15/2025 08:40 AM - 9:05 AM - Wisteria
Navigating the Transition from Helium as a Carrier Gas
Leeman Bennington - PerkinElmer
Chromatographers use approximately 7.9 % of the available helium resources per year. Helium costs are rising sharply; and shortages, are hindering productivity and profits. This presentation will focus on attaining high analytical performance using alternative carrier gases such as hydrogen and nitrogen in petroleum and environmental applications, as follows:
· New technology to enable the safe usage of hydrogen as a carrier gas for gas chromatography (GC) applications
· Interlaboratory studies (ILS) using nitrogen and hydrogen with precision (focus on D3606 and D2887)
· Preventing protonation using hydrogen as a carrier gas in GC – Mass Spectrometry (MS) applications
· Comparing chromatography resolution in three carrier gases

Abstract# 249 - 10/15/2025 01:30 PM - 2:00 PM - Daffodil
Maintaining the Spark: Ignitor Care for ASTM D93 & D56 Units
Andjela Djordic - Anton Paar
Join us for a deep dive on best practices for ignitor maintenance in automated flash point analyzers operating under ASTM D93 (Pensky-Martens) and ASTM D56 (Tag) methods. We'll cover why ignitor health is essential for accurate and reliable flash point testing, how to identify early signs of wear or malfunction, and provide practical tips on inspection, cleaning, and replacement intervals. We'll also discuss the types of ignitors and special considerations. This session is ideal for lab technicians and quality managers aiming to minimize downtime and maintain compliance through proactive maintenance.

Abstract# 250 - 10/15/2025 09:00 AM - 9:30 AM - Daffodil
Flash Point Testing: Safety in Your Hands with ASTM D56, D93, and D92
Priscilla Dias Da Silva - Anton Paar
Flash point testing is critical for safe handling and classification of flammable liquids—but improper use can create serious hazards. This session will guide you through best practices to ensure safety and accuracy using key standard methods, including ASTM D56, D93, and D92.
Key topics include: Understanding the risks of improper flash point testing and how to mitigate them Choosing the right test method for unknown samples Safe sample handling and operation techniques Fire extinguisher basics and emergency preparedness in the lab
Join us to gain practical insights that put safety in your hands and help you master flash point testing with confidence.

Abstract# 251 - 10/15/2025 12:00 PM - 12:30 PM - Daffodil
Lubricant Analysis, Evolved: Smarter Oxidation and Cold-Flow Testing with ASTM D8206 and D2983
Priscilla Dias Da Silva - Anton Paar
Say goodbye to outdated, time-intensive lubricant tests. In this session, we'll explore how modern methods and instruments can streamline your workflow, improve safety, and deliver relevant data—faster.
Topics will include: How ASTM D8206 compares to traditional ASTM D942 for grease oxidation stability How to test environmentally acceptable lubricants (EALs) efficiently using ASTM D8206 Low-temperature viscosity testing using ASTM D2983 Method B to evaluate lubricants and ATFs for driveline and cold-start performance
All attendees will receive a free e-book on lubricant analysis, featuring a wide range of methods, tools, and expert tips.

Abstract# 252 - 10/15/2025 09:30 AM - 10:00 AM - Daffodil
Faster Polymer Analysis: Molecular weight in one measurement
Afzal Hossain - Anton Paar
How long does analysis of your polymer samples take? Learn how to rapidly measure the molecular weight of polymer-in-solvent samples in just one test using the combination of density and rolling-ball viscometry.

Abstract# 253 - 10/15/2025 12:30 PM - 1:00 PM - Daffodil
Move beyond D445 with the Simplicity of D7042
Daniel Wolbrecht - Anton Paar
Are you tired of waiting for D445 measurements to be complete? Spending too much time cleaning capillaries? Worried about the risk and expense of broken glass?
This presentation will discuss the widely accepted viscosity method D7042 and how it relates to D445 in major standards such as fuels or lubricants. Leave the troubles of D445 behind with the simplicity and accuracy of D7042.

Abstract# 254 - 10/15/2025 01:00 PM - 1:30 PM - Daffodil
Remove the bottleneck! How D7525 can speed up oxidation testing in D4814 gasoline testing
Will Smythe - Anton Paar
With the recent addition of the modern oxidation test method, D7525 Rapid Small Scale Oxidation Testing, to the D4814 gasoline specification major time savings are now available for fuel testing.
This presentation will cover how RSSOT testing works and how the limits for D7525 compare to D525. In addition, we will cover the reduction in time, hassle, and lab space that can be achieved with the Rapid Small Scale Oxidation Test.

Abstract# 255 - 10/15/2025 08:00 AM - 8:30 AM - Daffodil
FTIR for FAME in Diesel Blends & Used Oils
John Martin - Anton Paar
This talk will cover the precise analysis of biodiesel (FAME) in diesel blends, following the DIN EN 14078, ASTM 7806 and ASTM D7371 standards, using the Lyza 7000 FTIR spectrometer. Attendees will learn how FTIR provides a fast, accurate, and preparation-free method to measure FAME content, ensuring compliance with strict industry regulations. The session will also include insights into monitoring soot in lubrication oils according to ASTM D7844, highlighting FTIR's role in optimizing machinery maintenance and more.

Abstract# 256 - 10/15/2025 08:30 AM - 9:00 AM - Daffodil
Digestion of Petroleum Samples for Element Analysis with ICP
Deanna Turner - Anton Paar
Petroleum samples present unique challenges in ICP analysis, making effective sample preparation critical. This talk explores the benefits of microwave digestion for complex matrices and how it can significantly reduce time, effort, and cost in the workflow.

Abstract# 257 - 10/14/2025 08:00 AM - 8:30 AM - Bluebonnet
Reliable Elemental Analysis of Crude Oil using the New Analytik Jena's PlasmaQuant 9200 High Resolution ICP-OES
Jesus Acapulco - Analytik Jena
The analysis of crude oil samples using inductively coupled plasma–optical emission spectroscopy (ICP-OES) presents unique challenges due to the high viscosity, volatility, particulate content, and elevated carbon levels of the matrix. To address these issues, we collaborated with Glass Expansion, utilizing their

Guardian Autosampler Probe, designed for robust performance in demanding sample environments. This specialized probe, constructed from chemically resistant materials and featuring an optimized geometric design for high-matrix tolerance, enabled consistent sample uptake and minimized carryover during analysis. In this presentation, we compare the performance of a standard carbon fiber probe with the Guardian autosampler probe side by side. Integrated with the newly launched Analytik Jena PlasmaQuant 9200 High Resolution ICP-OES system, a space-saving powerhouse, the Guardian probe demonstrated excellent stability and reproducibility, even with complex crude oil matrices. The robust and powerful plasma and the high optical resolution of the PlasmaQuant 9200 series, combined with the reliable sample uptake by the Guardian Autosampler probe gave excellent and reliable measurement results, making it a valuable solution for routine and high-throughput elemental analysis in petrochemical applications.

Abstract# 258 - 10/14/2025 08:30 AM - 9:00 AM - Bluebonnet
Clean Digestion: Microwave Solutions for Complex Matrices
Samuel Heckle - CEM Corporation
Preparing heavy oils and thermoplastics for trace metals analysis is challenging. Traditional methods involve flaming, muffle furnace ashing, and reconstitution—lengthy steps that risk contamination—and that's before the digest. The BLADE™ automated microwave digestion system offers a faster, cleaner alternative, digesting complex samples reducing the need for pre-digestion steps. Learn practical tips for digesting tough samples and reducing contamination sources. We'll cover both efficient sample prep and clean lab practices to help you improve accuracy and consistency in your trace metals analysis.

Abstract# 259 - 10/14/2025 09:00 AM - 9:30 AM - Bluebonnet
Dedicated, High-Performance Sample Introduction Systems (HP-SIS) for ICP-OES
Randy Mercurio - Glass Expansion
The standard sample introduction system (SIS) of your ICP determines many factors, including detection limits, precision, different matrix tolerances and cost. ICP performance can often be improved by careful choice of torch, spray chamber and nebulizer components, taking into account the type of samples that will be analyzed. In this presentation we will highlight Glass Expansion's new line of High Performance Sample Introduction Systems (HP-SIS) for the Thermo Fisher Scientific® PRO Radial and Duo ICP-OES. This presentation will help you learn how to make the right choice to get the best results and reduce operating costs, while minimizing downtime.

Abstract# 260 - 10/14/2025 09:30 AM - 10:00 AM - Bluebonnet
Contamination Challenges in ICP Trace Metals Analysis: Key Considerations for Accurate Results
Lesley Owens - Inorganic Ventures
Achieving reliable trace metals measurements by ICP requires strict contamination control, as even minor impurities can affect accuracy near detection limits. This presentation will highlight common contamination sources throughout the analytical workflow and offer practical strategies to minimize them. Topics include sample preparation, calibration standard purity, and contamination from labware, instrumentation, and the environment. Emphasis will be placed on high-purity reagents and risks associated with container materials and sample introduction systems. Attendees will gain clear insights into contamination risks and best practices to improve data quality, reproducibility, and confidence in low-level ICP trace metals analysis.

Abstract# 261 - 10/14/2025 11:45 AM - 12:15 PM - Bluebonnet
Improving Biofuel Production Through Feedstock Screening by ICP-OES
Aaron Hineman - PerkinElmer
Variability in biodiesel feedstock composition can introduce contaminants such as Na, K, Ca, Mg, P, and transition metals that poison catalysts and raise refining costs. This presentation shows how inductively coupled plasma optical emission spectrometry (ICP-OES) provides rapid, simultaneous multi-element screening at sub-ppm levels, even in viscous organic matrices. By identifying contaminants early, refiners can optimize pretreatment, reduce downtime, and improve fuel quality. Case studies demonstrate the performance advantages of fully simultaneous and hybrid simultaneous ICP-OES systems for reliable biofuel feedstock analysis.

Abstract# 262 - 10/14/2025 12:15 PM - 12:45 PM - Bluebonnet
Routine Trace Metal Analysis of Oils, Fuels and Other Challenging Samples with a Novel N2 ICP-OES System
Mike Plantz - Radom Instruments
This talk will focus on the capabilities and performance of the Radom MICAP-OES 1000 ICP-OES instrument for challenging applications such as oils, fuels and high matrix aqueous samples. The unique capabilities of this microwave plasma coupled to the high resolution simultaneous spectrometer will be demonstrated on a variety of organic and aqueous sample matrices. The small footprint design coupled with its use of N2 to support the ICP source results in a very robust, cost effective and easy to operate tool for measuring trace metal concentrations. A brief discussion on its novel design and operation will be followed by demonstration of its performance on several complex sample types. System stability and accuracy in these challenging applications will be presented.

Abstract# 263 - 10/14/2025 12:45 PM - 1:15 PM - Bluebonnet
Advancing Trace Elemental Analysis with SPECTRO ICP-OES and ICP-MS Instrumentation
Janel Dempsey - SPECTRO Analytical Instruments
SPECTRO Analytical Instruments provides exemplary elemental analysis solutions for a broad range of applications. SPECTRO's three ICP-OES models offer superior performance for high matrix samples such as petrochemicals and oilfield brines. The innovative dual side-on interface plasma view affords improved sensitivity without adding costly and time-consuming maintenance. For applications requiring higher sensitivity, the new SPECTROGREEN MS delivers stability, matrix compatibility, speed, and ease of use. With the same high-powered LDMOS generator employed in SPECTRO's ICP-OES products, a gas dilution system, and an efficient collision/reaction cell, the SPECTROGREEN MS easily meets testing requirements for a wide range of industrial applications.

Abstract# 264 - 10/14/2025 01:15 PM - 1:45 PM - Bluebonnet
APS-7450V AUTOMATED SAMPLE PREP STATION TELEDYNE CETAC TECHNOLOGY
Jeff Eubanks - Teledyne Labs
Proper maintenance of heavy machinery is critical and rising in demand. A key tool in preventative maintenance is the analysis of lubricating oils for wear metals, helping identify issues before component failure. This growing need led ASTM to develop Method D5185 for quantifying wear metals and oils. The APS-7450V volumetric sample prep station was specifically designed to support this method and meet the increasing demands of in-service oil analysis labs. It's simple design and intuitive software make it easy to integrate into any lab workflow quickly becoming a vital part of daily operations. Come learn the FACCS about APS-7450V.

Abstract# 265 - 10/14/2025 01:45 PM - 2:15 PM - Bluebonnet
Optimizing volatile organic analysis using the Thermo Scientific iCAP PRO ICP-OES and IsoMist temperature controlled spray chamber
Mike Mourgas - Thermo Fisher Scientific
This presentation details optimizing ICP-OES analysis of challenging volatile organic compounds like naphtha. We will demonstrate how the iCAP PRO ICP-OES, coupled with the Glass Expansion IsoMist temperature controlled spray chamber, delivers unparalleled robustness and sensitivity. Discussions will cover instrument and software-based method development and will introduce our revolutionary AI-powered semi-quantitative analysis. This new feature allows analysts to quickly identify elements and estimate concentrations without calibration, significantly simplifying initial sample characterization. An application example with real data will provide a clear proof of concept and a ready-to-implement workflow.

Abstract# 266 - 10/15/2025 10:00 AM - 11:00 AM - Exhibit Hall A4
KEYNOTE GenAI for Energy & Chemicals: From Data to Real-Time Decisions
Diti Sood - Bolo AI
Chemical and energy companies generate massive volumes of lab, field, and process data. Yet, most GenAI initiatives fail to deliver measurable impact. The disconnect? Leaders are applying yesterday's playbook to tomorrow's technology. In this keynote, Diti Sood, Founder & CEO of Bolo AI, reveals why GenAI demands a fundamentally different approach and how to unlock real ROI across chemical plants, refineries, and energy operations. Moving beyond

chatbots to true workflow intelligence, she'll share how GenAI can cut through noise, surface critical risks faster, and drive safer, more reliable operations. Drawing on her dual perspective as both an Oil & Gas field engineer and CEO of one of the industry's fastest-growing AI startups, Diti will share practical frameworks and real-world case studies. Discover how leading operators are using GenAI to reduce downtime, improve decision-making, and shift from reactive firefighting to proactive operations.
The competitive advantage won't belong to companies with the most data but to those who design GenAI systems that make daily work faster, safer, and better.

Abstract# 267 - 10/15/2025 02:10 PM - 3:10 PM - Orchid
Process Raman AIO
Kingsley Chambers - ThermoFisher Scientific
This talk will highlight the theory of Raman Spectroscopy and outline several hardware innovations. It will outline the advantages of using Raman Spectroscopy in process and benchtop applications. The presentation will illustrate various accessories and Chemometrics used to solve problems using Raman.

Abstract# 268 - 10/15/2025 12:00 PM - 12:30 PM - Tulip
The Sticky Problem of the Forever Chemicals – New Challenges in Environmental Exposome
Yina Liu - Texas A&M University
Per- and polyfluorinated alkyl substances (PFAS) continue to receive significant attention as they are often detected in natural waters and biota. Notably, they were observed in coastal and open oceans as well as in marine organisms. Therefore, tracking their transport and fate becomes critical for understanding PFAS's ecological impacts. This talk will focus on PFAS observed in natural waters, wildlife, and food matrices. The seminar will also highlight data from a five-year time series of PFAS observed in one of the most industrialized estuaries in the United States, Galveston Bay, TX.

Abstract# 269 - 10/15/2025 01:00 PM - 1:30 PM - Tulip
PFAS in Air: Regulatory and Standards Landscape, Method Development, and Workflow Guidance
Caroline Widdowson - Markes International
PFAS (per- and polyfluoroalkyl substances) are a group of highly persistent chemicals that are now recognized as a global concern. While much attention has focused on water and soil, PFAS can also be emitted into the air during industrial processes, product use, and waste handling. Once airborne, they may travel long distances, making air a critical pathway for dispersion and exposure. Testing for PFAS in air is challenging. They can exist both as vapors and bound to particles, they occur at very low concentrations, and background contamination can easily compromise results. For industry and environmental consultants tasked with source emission testing and environmental monitoring, understanding these challenges and the expectations of regulators is essential. This presentation is designed to give attendees a clear overview of the current landscape for PFAS air monitoring. We will outline practical considerations for sampling and analysis, highlight the importance of contamination control, and provide updates on U.S. and international efforts toward method development, standardization, and regulatory guidance. Example workflows using thermal desorption coupled with GC–MS (TD–GC–MS) will also be discussed, showing how these techniques can be applied to real-world PFAS air testing. By clarifying what is expected of industry, regulators and consultants, and by sharing both U.S. and global perspectives, the session will equip participants with the knowledge needed to approach PFAS air testing with confidence and consistency.

Abstract# 270 - 10/15/2025 08:00 AM - 8:30 AM - Tulip
Overview of PFAS Testing and Regulations
Mike Chang - Agilent Technologies
Per- and polyfluoroalkyl substances (PFAS) have been used in many industries from non-stick cookware, firefighting foams, food packaging materials, semi-conductor manufacturing to electric vehicle battery manufacturing. Since the late 1940s, these 100% man-made chemicals provided great benefits in our daily life as well as threats to our environment. For the past few years, with regulatory emphasis on environmental protection, there have been numerous studies regarding how to effectively measure PFAS in various sample types. In this presentation, I will go over the current regulatory landscape and discuss currently available technologies for measuring PFAS accurately.

Abstract# 271 - 10/15/2025 09:30 AM - 10:00 AM - Tulip
Streamlined PFAS Analysis in Biosolids, Tissue, Soil by LC-MS/MS
Mike Chang - Agilent Technologies
While per- and polyfluoroalkyl substances (PFAS) have been analyzed by many laboratories in the past decades, most of the testing were focused on drinking water analysis globally due to strict regulations in drinking water. Now the expansion of the scope of PFAS measurements is headed toward biosolids, tissue samples, soil and many other challenging sample types. To address this US EPA published the final version of Method 1633A. In this presentation, we will discuss how to overcome challenges in handling these complex samples matrices and automation for better productivity.

Abstract# 272 - 10/15/2025 12:00 PM - 12:40 PM - Hibiscus
Records and Security
Jeanne Mensingh - Labtopia, Inc.
In any industry, laboratory records must be secure, accessible, and defensible to meet stringent regulatory, operational, and client requirements. Classifying Records for Integrity and (Cyber)Security presents a practical approach to identifying and protecting critical laboratory data—from paper logbooks to digital spreadsheets, instrument outputs, and hybrid systems. This session explores the importance of proper data classification, traceability, and validation to ensure record integrity throughout the data lifecycle. Attendees will learn how to address common vulnerabilities such as data corruption, unvalidated macros, disconnected instruments, and inadequate backup protocols. Emphasis is placed on cyber-resilience, human-readable formatting, system access controls, and differentiating between data integrity and data security. As laboratories evolve with cloud platforms and increased automation, this presentation provides the tools and strategies needed to build trust, ensure defensibility, and prepare for audits or incidents in today's regulated environments.

Abstract# 273 - 10/15/2025 09:00 AM - 9:45 AM - Hibiscus
Laboratory Digital Maturity: Readiness, Roadblocks, and Strategic Opportunities
Gretchen McAuliffe - Labtopia
Laboratories across industries are cautiously embracing AI as a means of simplifying or resolving a wide range of thorny issues. While it is true that the potential of AI is immense, there is quite a bit of groundwork to be laid before it can be adopted in laboratory environments. An advanced level of digital maturity is a prerequisite. But what does digital maturity actually mean, and how can it be achieved? This presentation provides thoughtful responses to these uncertainties, examining the question of how to assess digital readiness, addressing roadblocks that might impede progress, and highlighting the opportunities that pursuing digital maturity will position early adopting laboratories to seize.

Abstract# 274 - 10/15/2025 12:30 PM - 1:00 PM - Tulip
Defluorination and derivatization of fluoropolymers for determination of total organic fluorine in polyolefin resins by gas chroma
Peilin Yang - The Dow Chemical Company, Yujuan Hua - Dow Chemical Canada ULC, Jim Luong - Dow Chemical Canada ULC, Tianzi Huang - The Dow Chemical Company, Shayne Green - The Dow Chemical Company
The growing regulatory attention on PFAS, especially polymeric PFAS, demands effective analytical strategies for quantifying total organic fluorine (TOF) in complex materials. This presentation introduces a practical approach for determining TOF in polyolefin resins. Through selective solvent extraction from polyolefin resin, efficient defluorination of high molecular weight fluoropolymers, and sensitive GC detection of the derivatization product, this method achieves reliable quantification across a broad linear concentration range of 1-150 ppm. This GC-based approach provides a cost-effective solution for monitoring fluorine in a variety of applications to support both compliance and innovation in materials science.

Abstract# 275 - 10/15/2025 02:30 PM - 3:00 PM - Tulip
PFAS in Biosolids: Regulations and Testing Methods
Michelle Onofrio - ALS USA Environmental
Sewage sludge and biosolids have been used for land application since the early 20th century due to their agricultural benefits. Sewage sludge treatment does not specifically remove PFAS, and treated biosolids can therefore contain these persistent contaminants. PFAS contamination in biosolids has received growing attention nationwide, with some cases drawing national media

coverage. There are currently no federal regulations limiting PFAS concentrations in land-applied biosolids, but some states have enacted PFAS-specific regulatory limits, and several others have proposed legislation under review. This review summarizes the current regulatory landscape surrounding PFAS in biosolids and provides an overview of applicable analytical methods.

Abstract# 276 - 10/15/2025 09:00 AM - 9:30 AM - Tulip
PFAS in Air OTM Methods
Kesavalu Bagawandoss - SGS North America, Inc.
PFAS in air is a burning topic in the “Forever Chemicals World”. Although OTM-45 method has been in use for a while that method is an impinger sample collection method in a liquid and analyzed by EPA method 1633 or 537 (mod.). OTM -50 is an Air method, wherein, samples are collected in SUMMA canisters akin to TO-15A. OTM-50 names a target compound list of 30 PFAS compounds. The differences between regular PFAS LC/MS/MS OTM-45 and OTM-50 methods will be discussed. US EPA requires that 30 PFAS compounds be analyzed as provided in the OTM-50 method. The analytical standards, surrogates and internal standards will be outlined for the OTM -50 method. Unlike regular PFAS standards the sources from which standards are acquired are quite different. Method OTM-50 and its process on sample collection and analysis will be outlined. Data from OTM-50 method will be discussed.

Abstract# 277 - 10/15/2025 02:00 PM - 2:30 PM - Tulip
Managing Your PFAS Workflows With Agilent SLIMS
Miles Bradshaw - Agilent Technologies
SLIMS connects directly to the instruments, tracks samples and guides users through the defined workflows ensuring quality results. SLIMS also can track equipment, consumables and reagents verifying availability and fit for purpose. SLIMS complements chromatography and mass spectrometry software by automatically importing results and generating reports and EDDs saving you time and simplifying the most time-consuming actions in your data management workflows. Key features in SLIMS like the ability to version workflows can help labs when new standards are published, while enabling compliance with quality systems and regulatory requirements that are key to achieving excellence in scientific outcomes.

Abstract # 278 - 10/14/2025 - 2:35 PM - 3:00 PM - Floral Hall A2
Interrogating the Composition of Mixed Plastic Waste Pyrolysis Oils using Supercritical Fluid and Gas Chromatography
***Kevin Schug* - The University of Texas at Arlington**
***Alexander Kaplitz* - The University of Texas at Arlington**
***Sadid Morshed* - The University of Texas at Arlington**
***Noah Menard* - The University of Texas at Arlington**
***Jean-François Borny* - Lummus Technology, LLC** The pyrolysis of mixed plastic waste is a promising advanced recycling technology. The refinement of mixed plastic waste pyrolysis oils can be challenging because of the variable composition and properties of the oils. Methods are needed to characterize pyrolysis oils. Supercritical fluid chromatography (SFC) was investigated for the separation of pyrolysis oils. A method was devised to differentiate pyrolysis oils that are generated from polyethylene and polypropylene feedstocks using ultraviolet detection. SFC was also used with fraction collection to fractionate the oils for subsequent gas chromatography (GC) analysis. GC with mass spectrometric and vacuum ultraviolet spectroscopic detection were used.

Abstract # 279 - 10/14/2025 - 1:40 PM - 2:10 PM - Floral Hall A2 Quantifying Olefins in Waste Plastic Pyrolysis Oils and Distillate Fractions via GC×GC–FID with Targeted Derivatization
***Petr Vozka* - California State University, Los Angeles** Waste plastic pyrolysis oils (WPPOs) are complex, variable mixtures. Unsaturation governs stability, upgrading severity, and the quality of fuel-range cuts. Reliable, transferable olefin quantification across whole oils and distillates is therefore essential. Here is presented an advancement over our prior gasoline-range method, extending precise quantification to jet-range fractions and progressing toward diesel-range application. The approach couples comprehensive two-dimensional gas chromatography with flame ionization detection (GC×GC–FID) with targeted derivatization to reposition olefins in the GC×GC space, enabling robust indirect quantification with carbon-number- and class-resolved outputs amid paraffins, naphthenes, and aromatics.

Abstract # 280 - 10/14/2025 - 10:00 AM - 11:00 AM - Exhibit Hall A4
KEYNOTE: Plastic Waste Measurements: How Can GC×GC Decode Complexity in Pyrolysis Oils and Microplastics
***Petr Vozka* - California State University, Los Angeles**
Plastic waste manifests as environmental microplastics (MPs) and, when thermochemically processed, as waste plastic pyrolysis oils (WPPOs), both demanding rigorous measurements. Analytical measurements underpin efforts toward the conversion of plastic waste into usable products and toward understanding the organic compounds associated with MPs. Current economics are challenging; however, analytics can help reduce risk and cost. This talk surveys work on the detailed analysis of WPPOs and MPs. A forward-looking perspective will outline research and implementation needs over the next five years to support broader use of WPPOs, alongside the role of education and public communication in building literacy and trust. The talk highlights opportunities for researchers and industry to reduce uncertainty, align expectations, and support responsible deployment.

Abstract # 282 - 10/15/2025 - 8:30 AM - 9:00 AM - Tulip
An Exploration of Sample Prep Techniques for Non-targeted Analysis of PFAS using Combustion Ion Chromatography
Dr. Jay Gandhi - Metrohm USA
Due to their environmental persistence and potential implications on human health, the analysis of per- and polyfluoroalkyl substances, or PFAS, in the environment remains critical. Targeted analysis using LC-MS/MS has long been the analytical method of choice, due to its high sensitivity and specificity. With more than 3000 potential PFAS-type compounds, targeted analysis does not always allow for the assessment of the total impact of these compounds. Because of this, there has been increasing interest by regulatory committees in non-targeted analysis techniques, such as quantifying total organic fluorine (TOF), as a PFAS impact assessment. Combustion Ion Chromatography, or CIC, allows for the sensitive quantitation of TOF, ranging from single digit ppb to percent levels. In this technique, samples are combusted in a high temperature oven, where organofluorine bonds are broken to produce HF, which is subsequently absorbed into solution and analyzed by IC for fluorine. Prior to analysis by IC, inorganic, or free fluoride must be separated from the sample to prevent interference. A variety of techniques exist to accomplish removal of inorganic fluoride, such as the AOF (adsorbable organic fluorine) method (USEPA Method 1621), which captures organofluorine compounds on an activated charcoal bed and allows for removal of free fluoride through a rinsing step. The charcoal can then be analyzed by CIC. Other methods have also been investigated to further improve recovery of TOF, allowing for the non-targeted identification of PFAS compounds ranging from C1-C16+. Most recently Metrohm USA and Markes International collaborated to introduce “Total Fluoride in Air by C-IC”. A complete portfolio of Total Fluorine analysis in Air, Water and Soil will be presented.

Abstract# 106 - 10/14/2025 01:00 PM - South Lobby
Advancements in Tribological Testing: Modern Methods and Instrumentation for Enhanced Lubricant Performance
Dr. Raj Shah - Koehler Instrument Company
Tribology plays an essential role in industrial performance, where friction, wear, and lubrication significantly impact equipment reliability, energy efficiency, and operational costs. In high-stakes sectors such as petroleum and aviation, inadequate lubricant performance can lead to accelerated component degradation, unplanned downtime, and increased maintenance expenditures. To mitigate these risks, advanced tribological testing methods have been developed to evaluate lubricants under controlled, standardized conditions. This poster presents recent innovations in tribological testing, emphasizing techniques such as wear scar analysis and extreme pressure evaluation in accordance with ASTM standards. It explores the functionality and application of key instruments—including the Four-Ball Wear and EP Testers, BOCLE (Ball-On-Cylinder Lubricity Evaluator), and HFRR (High-Frequency Reciprocating Rig)—for assessing the tribological properties of aviation fuels, diesel fuels, greases, and lubricating oils. Analyzing wear mechanisms and identifying failure thresholds provides fundamental insights for optimizing lubricant formulations and extending equipment life. The integration of modern instrumentation with standardized testing protocols supports more precise and reproducible performance evaluations. These advancements are driving innovation in lubricant development, contributing to improved machinery reliability, reduced environmental impact, and enhanced sustainability across industrial applications.

Abstract# 107 - 10/14/2025 01:00 PM - South Lobby
Evaluating Air Release Properties in Lubricants: ASTM D3427 Compliance and Performance Benefits of Bio-Based Formulations
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Lei Andre Delos Reyes - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company
Trapped air in lubricants can negatively impact machinery performance, leading to inefficiencies, cavitation, and increased wear. To address this issue, standardized tribological testing methods have been developed to assess the air-release properties of lubricants under controlled conditions. This poster presents recent advancements in air release evaluation in accordance with ASTM D3427, a recognized method for determining the time required for dispersed air to separate from oil under specific temperature and pressure conditions. The study focuses on hydrocarbon-based lubricants, with particular attention to bio-based formulations such as epoxidized Karanja oil. Comparative analysis reveals that epoxidized oils exhibit significantly improved air release times when benchmarked against conventional base oils. These findings highlight the potential of functionalized bio-lubricants to enhance performance while supporting sustainability goals. By integrating standardized test protocols with advanced measurement techniques, researchers can gain deeper insights into lubricant behavior, enabling the development of formulations that improve system reliability, reduce operational risk, and extend machinery lifespan.

Abstract# 108 - 10/14/2025 01:20 PM - South Lobby
Flash Point Analysis for Ensuring Safety in the Storage and Transport of Petroleum Products
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Lei Andre Delos Reyes - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company

Flash and fire points are important safety measures that influence how petroleum products are handled and stored. These thermal properties determine the temperature at which flammable vapors are released and can ignite, making them key indicators for hazard classification, labeling, and regulatory compliance. In industrial settings where safety and environmental risks are elevated, accurate determination of flash points is essential for minimizing fire hazards and ensuring proper operational protocols. This poster presents the evaluation of flash and fire points using the Cleveland Open Cup method, conducted in accordance with ASTM D92. This standardized approach measures the lowest temperature at which the vapor above a petroleum sample momentarily ignites when exposed to an ignition source. Unlike closed-cup methods, the open-cup procedure closely simulates real-world conditions, such as open-air spills or leaks, providing a more comprehensive assessment of ignition risk. By identifying ignition thresholds, engineers and safety professionals can implement better safeguards, improve storage and transportation practices, and comply with safety regulations. The integration of standardized flash point testing into quality control protocols enhances both industrial safety and environmental responsibility across the petroleum sector.

Abstract# 109 – 10/14/2025 01:20 PM – South Lobby
Versatile Octane Engine Design for Evaluating Gasoline and Biofuel Blends
Dr. Raj Shah – Koehler Instrument Company, Angelina Precilla – Koehler Instrument Company, Lei Andre Delos Reyes – Koehler Instrument Company, Mojan Jafaripour – Koehler Instrument Company
Octane rating is a fundamental parameter in assessing fuel quality, particularly for internal combustion engines where resistance to knocking is critical for optimal performance, efficiency, and emissions control. Higher octane numbers indicate a fuel's greater ability to withstand premature ignition under pressure, which is essential for modern, high-compression engine designs. This poster presents the evaluation of octane performance using standardized testing protocols following ASTM D2699 for Research Octane Number (RON) and ASTM D2700 for Motor Octane Number (MON). These complementary methods provide a comprehensive understanding of a fuel's behavior under varying operating conditions, from mild to severe. The testing system employs an engine with adjustable compression ratios, enabling accurate and repeatable octane measurements across a wide range of fuel formulations. Particular attention is given to bioethanol-gasoline blends, which demonstrate notable improvements in octane values as the proportion of bioethanol increases. This trend highlights the promise of renewable fuels not only in reducing environmental impact but also in enhancing engine performance. Standardized octane testing supports the development of advanced fuels that align with sustainability goals while meeting the performance demands of modern engines. By enabling precise characterization of combustion properties, this method can help in refining fuel formulations and guiding future innovations in the automotive and energy sectors.

Abstract# 110 – 10/14/2025 02:00 PM – South Lobby
Evaluating Flash Point Variability Using the Pensky-Martens Closed-Cup Method
Dr. Raj Shah – Koehler Instrument Company, Angelina Precilla – Koehler Instrument Company, Lei Andre Delos Reyes – Koehler Instrument Company, Will Streiber – Koehler Instrument Company, Zachary Slade – Koehler Instrument Company, Mojan Jafaripour – Koehler Instrument Company
Flash point determination is essential for ensuring the safe handling, storage, and transportation of combustible materials. To investigate this variability, flash point testing was conducted using a closed-cup method in accordance with ASTM D93. This standardized approach provides controlled, enclosed conditions to simulate real-world scenarios where vapor containment plays a significant role in ignition risk. The study specifically examined the impact of varying heating rates on flash point measurements, with results indicating a clear inverse relationship. As heating rates increased, flash point readings decreased significantly, with sulfur igniting at temperatures as low as 195°C under rapid heating conditions. These results emphasize the need for controlled testing environments, especially when evaluating volatile materials or those sensitive to impurities. In this regard, the closed-cup method provides this by simulating real-world enclosed environments.

Abstract# 111 - 10/14/2025 02:00 PM - South Lobby
High-Precision Kinematic Viscosity Measurement for Industrial Petroleum Products
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Kristina Deraveniere - Koehler Instrument Company, Joseph Rombaldi - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company
Kinematic viscosity, defined as a fluid's resistance to flow under gravity, is a key characteristic that affects how lubricants perform in real-world conditions. In the context of lubricant performance, viscosity directly impacts film formation, load-bearing capacity, and energy efficiency in mechanical systems. Accurate viscosity measurements are essential for evaluating product consistency, ensuring quality control, and guiding formulation strategies in lubricant development. This poster highlights standardized kinematic viscosity testing conducted in accordance with ASTM D445 and ASTM D446. These procedures utilize a temperature-controlled bath designed to maintain uniform heating conditions and accommodate multiple capillary viscometers simultaneously. The dual-tank configuration supports precise thermal regulation and consistent liquid levels, ensuring stable testing environments across various temperature settings. The testing system enables reproducible measurements across a wide range of lubricant types, from light oils to high-viscosity greases. By replicating real-world operating temperatures, the method provides critical data on flow behavior, aiding in the selection and optimization of lubricants for specific applications.

Abstract# 112 - 10/14/2025 02:00 PM - South Lobby
Combating Salt Contamination in Crude Oil: Analysis and Desalting Techniques
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, William Streiber - Koehler Instrument Company, Joseph Rombaldi - Koehler Instrument Company, Vincent Colantuoni - Koehler Instrument Company, Anthony Schevon - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company
The presence of inorganic salts in crude oil poses significant operational challenges in the refining process. These salts, primarily composed of sodium, calcium, and magnesium chlorides, can lead to equipment corrosion, heat exchanger fouling, and catalyst deactivation, ultimately reducing efficiency and increasing maintenance costs. Effective detection and removal of these contaminants are essential to maintaining refinery integrity and performance. This poster presents standardized methods for measuring salt content in crude oil, with a focus on ASTM D3230. This test method utilizes an electrical conductivity-based technique to quantify the total amount of dissolved salts, providing rapid and reliable results suitable for both field and laboratory analysis. Accurate salt measurement enables refiners to assess incoming crude quality and determine the effectiveness of pre-treatment processes. In addition to measurement techniques, the poster explores common desalting methods employed before distillation. These include water washing, which dilutes and extracts water-soluble salts, and electrostatic separation, which enhances phase separation and salt removal by applying a high-voltage electric field. Together, these practices support the mitigation of corrosion risks and improve operational efficiency.

Abstract# 113 - 10/14/2025 02:20 PM - South Lobby
Evaluating Grease Performance Under Water Exposure: Test Methods and Industrial Significance
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Zachary Slade - Koehler Instrument Company, Joseph Rombaldi - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company
Water contamination poses a significant threat to lubrication system performance, contributing to grease degradation, corrosion, and mechanical failure that can compromise equipment reliability and increase maintenance costs. In industries frequently exposed to high-moisture environments—such as mining, paper manufacturing, and food processing—the ability of lubricating greases to resist water intrusion is essential for ensuring operational efficiency and equipment longevity. To evaluate grease performance under wet conditions, standardized tribological testing protocols have been developed in accordance with ASTM methods. This poster highlights two key evaluations of water resistance: the ASTM D4049 Water Spray-Off Test and the ASTM D1264 Water Washout Test. These tests simulate real-world scenarios where greases are subjected to high-pressure water spray or continuous water flow while in service. ASTM D4049 measures the percentage of grease sprayed off a metal surface, while ASTM D1264 assesses grease loss from a bearing assembly subjected to water flow at elevated temperatures. By analyzing the extent of grease removal under these controlled conditions, researchers can identify lubricant formulations that offer superior resistance to water washout and spray-off. The results support the development of advanced greases designed to perform reliably in water-intensive applications. By quantifying grease loss under controlled water exposure, these methods provide reliable data to improve equipment protection and operational longevity.

Abstract# 114 - 10/14/2025 02:20 PM - South Lobby
Standardized Evaluation of Grease Flow Characteristics for Low-Temperature Applications
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Gavin Thomas - Koehler Instrument Company, Lei Andre Delos Reyes - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company
Lubricating greases undergo substantial viscosity increases at sub-zero temperatures, impeding flow and potentially causing mechanical failures in cold environments. To address this challenge, the industry requires reliable test methods that accurately characterize grease behavior under extreme cold conditions. This study presents an implementation of the Kesternich Method (DIN 51805) for quantitative assessment of grease flow properties at temperatures down to -50°C. Using a controlled-pressure approach with a Low-Temperature Grease Flow Tester, the method demonstrates high repeatability in determining flow points across multiple grease formulations. Experimental results establish a consistent exponential pressure-temperature relationship, validating the method's accuracy for comparative testing. With its rapid cooling capability and minimal sample requirements, this standardized approach enables efficient evaluation of low-temperature grease performance, supporting proper lubricant selection for industrial applications in arctic climates and cold-weather operations.

Abstract# 115 - 10/14/2025 02:20 PM - South Lobby
Automated Cold Flow Characterization of Petroleum Products: Enhancing Reliability in Cloud and Pour Point Analysis
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Joseph Rombaldi - Koehler Instrument Company, William Streiber - Koehler Instrument Company, Stefan Lim - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company
The cold flow behavior of petroleum products, characterized by cloud point and pour point, is a key determinant of operational performance in fuel systems, lubricants, and pipeline transport. Traditional manual testing methods for these properties are prone to variability and inefficiency, potentially compromising quality control and leading to cold-weather operational failures such as fuel filter plugging or mechanical seizure.
To address these challenges, automated instrumentation offers a robust solution for standardized and precise cold flow evaluation. This study demonstrates the application of an Automatic Cloud and Pour Point Analyzer, which employs optical detection for cloud points and an automated tilt method for pour point determination. The system’s integrated cooling, wireless test heads, and touch-screen interface minimize human error while improving repeatability and throughput.
By comparing automated results with conventional methods, this work highlights the technology’s advantages for both conventional and biodiesel formulations, where accurate cold flow data are essential for preventing equipment failure and ensuring winter-grade fuel compliance. The adoption of such systems can enhance testing efficiency, support regulatory adherence, and optimize product formulation for diverse climatic

conditions—ultimately reducing downtime and maintenance costs across the petroleum supply chain.

Abstract# 119 - 10/15/2025 12:30 PM - South Lobby
Advancements in high matrix neutralization for sample preparation of surface, ground, and wastewater samples.
Christopher Mitchell - Biotage, Evan Walters - Biotage, Deanna Bissonnette - Biotage
Environmental laboratories routinely follow the Environmental Protection Agency (EPA) 1600, 600, and 8000 series methods to analyze contaminants in surface water, groundwater, and wastewater. However, the physical and chemical complexity of these samples present significant challenges during sample preparation, including high particulate loads and matrix interferences. To address these challenges, many laboratories have adopted methods to reduce sample preparation volumes from the traditional 1L samples. While this approach minimizes handling difficulties, it can negatively impact laboratory reporting limits by increasing the detection limits for target analytes. To overcome these limitations, we introduce a novel 47mm depth filtration disk holder incorporating the ISOLUTE® HM-N filtration product. This system effectively neutralizes high-matrix interferences and integrates seamlessly with solid-phase extraction (SPE) techniques. Laboratories can process 1L wastewater samples in under 10 minutes with unprecedented ease and yield a 35% reduction in solvent use. This innovative sample matrix filtration approach enhances performance criteria by reducing detection limits, increasing accuracy, and improving precision when compared to traditional liquid-liquid extraction and micro-extraction techniques. This work highlights the transformative potential of this new technology to simplify and optimize sample preparation workflows. Environmental laboratories that implement the 47mm depth filtration disk holder for EPA 1600, 600, and 8000 series methods will maximize sample processing efficiency, improve sustainability, and produce reliable data.

Abstract# 125 - 10/15/2025 12:50 PM - South Lobby
Laboratory Atmospheric Distillation: ASTM D86 and Its Continued Use in the Modern Laboratory
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Lei Andre Delos Reyes - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company, William Streiber - Koehler Instrument Company
Accurate distillation profiling of petroleum products is essential for evaluating fuel performance, safety, and end-use compatibility in automotive and aviation applications. This work presents a refined methodology using Koehler's Front-View Distillation Apparatus to execute ASTM D86 batch distillation tests under controlled, repeatable conditions. By directly observing the boiling flask through a transparent window, operators can precisely identify key temperature endpoints corresponding to specific recovery percentages. The apparatus features a fully insulated stainless-steel condenser bath, a stepless 1250 W heater with rack-and-pinion elevation controls, and digital temperature regulation to maintain consistent vapor condensation. We detail optimized procedures for sample loading (100 mL), thermometer calibration, and condenser coolant management, ensuring minimal heat loss and accurate collection of distillate fractions. Comparative case studies demonstrate the apparatus's capability to determine volatility characteristics of motor gasolines, aviation turbine fuels, kerosenes, naphthas, and distillate fuels up to Grade No. 2 diesel oil. Data obtained correlate distillation curves with engine startup behavior, warm-up efficiency, vapor-lock tendencies, and deposit formation risks due to high-boiling residues. In conclusion, this front-view design streamlines operator intervention, reduces test variability, and reinforces compliance with ASTM D86 specifications, providing laboratories and fuel producers a robust platform for safeguarding fuel quality and optimizing engine reliability.

Abstract# 126 - 10/15/2025 12:30 PM - South Lobby
Enhancing Jet Evaporation Methods for Precise Gum Content Measurement in Aviation and Automotive Fuels
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Lei Andre Delos Reyes - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company, Stefan Lim - Koehler Instrument Company

Accurate quantification of gum content in fuels is critical to maintain engine reliability and prevent operational issues such as deposit formation, filter clogging, and component corrosion. This poster outlines advanced methodologies for determining gum content via the ASTM D381 jet evaporation test, emphasizing improvements in sample handling, instrumentation, and analytical controls. We highlight features of the Koehler Existent Gum Evaporation Bath, such as its built-in steam superheater, digital temperature regulation, and six-unit parallel testing capability, that streamline testing and reduce variability. Through a series of controlled experiments, we examine how trace metal contaminants (Cu, Fe, Ni, Zn, and Pb) accelerate gum formation in motor gasoline and gasohol blends over storage intervals (1, 2, and 4 weeks). Our data reveal that copper and iron exert the most pronounced effects on gum levels, underscoring the need for stringent metal deactivation strategies. Additionally, we discuss real-world implications of elevated gum contents in aviation turbine fuels, linking poor distribution practices to increased high-boiling residues and particulate matter, and reference Brazilian ANP regulations that cap gum at 5.0 mg/100 mL. Finally, best practices for minimizing oxidative gum precursors, including the use of antioxidants and stabilizers, are presented. Collectively, these enhancements to the ASTM D381 procedure enable laboratories to produce more reliable, reproducible gum measurements, ultimately safeguarding fuel system integrity and engine performance.

Abstract# 127 - 10/15/2025 12:30 PM - South Lobby
Advancements in Copper Corrosion Assessment for Petroleum-Derived Products
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Lei Andre Delos Reyes - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company, Anthony Schevon - Koehler Instrument Company
Copper and copper alloys are universal in petroleum handling and processing equipment, yet they remain vulnerable to corrosive attack by various hydrocarbon streams. This poster introduces an integrated suite of improved laboratory techniques for evaluating copper corrosion induced by liquid and gaseous petroleum products, as well as lubricating greases. Building on established ASTM standards—D130 (copper strip test for liquid fuels), D1838 (copper strip test for liquefied petroleum gases), and D4048 (copper corrosion detection from greases), we detail refined sample preparation, instrumentation, and procedural controls that enhance reproducibility and sensitivity. Key innovations include optimized copper-coupon surface preparation to reduce variability, precise thermal conditioning of test baths for consistent temperature control, and updated protocols for accelerated gas-phase exposure. Comparative case studies demonstrate how these methods detect early-stage corrosivity in aviation gasolines, diesel fuels, LPG mixtures, and industrial greases, correlating visual coupon discoloration with quantifiable corrosion indices. The results underscore the importance of rigorous copper-strip testing in predicting material compatibility and guiding the design of corrosion-resistant components in storage tanks, pipelines, and refinery systems. In conclusion, these advancements provide laboratories and manufacturers with a robust framework to safeguard copper-based infrastructure and extend equipment service life in petroleum environments.

Abstract# 128 - 10/15/2025 12:30 PM - South Lobby
Precise Fuel Quality Assessment using Automated Ramsbottom Carbon Residue
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Lei Andre Delos Reyes - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company, William Streiber - Koehler Instrument Company
Accurate quantification of carbon residue in petroleum products is critical for predicting deposit formation and ensuring reliable engine performance. This study evaluates the Koehler Ramsbottom Carbon Residue Apparatus, which incorporates microprocessor-controlled temperature regulation and

over-temperature protection circuitry to streamline ASTM D524 testing. In each analysis, a pre-conditioned glass bulb is weighed before and after heating at 550 °C for 20 minutes; the residual carbon mass is recorded to calculate the percent carbon residue. Method validation was performed using diesel fuel samples, with duplicate measurements confirming repeatability (average RCR < 0.10 %). The device's automatic temperature control and built-in data logging significantly reduce operator variability and improve throughput compared to manual furnaces. Low carbon residue values observed in tested diesel samples demonstrate strong thermal stability and minimal deposit-forming tendencies. By delivering fast, reproducible, and accurate RCR results, the apparatus supports quality control in refineries, blending facilities, and research laboratories, enabling timely decisions regarding fuel formulation, engine maintenance, and process optimization.

Abstract# 129 - 10/15/2025 12:30 PM - South Lobby
Assessing High-Temperature Stability of Middle Distillate Fuels via Advanced Reflectance Colorimetry
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Lei Andre Delos Reyes - Koehler Instrument Company, Zachary Slade - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company

Reliable performance of middle distillate fuels (jet and diesel) hinges on their ability to resist oxidative degradation under elevated temperatures. This study employs the Koehler Reflectance Colorimeter to quantify filterable insoluble formation in distillate samples according to ASTM D6468. Two 50 mL fuel aliquots are incubated at 150 °C for prescribed intervals (90 min and 180 min), then cooled to ambient temperature in darkness to allow particulate aggregation. A vacuum filtration system collects insoluble residues on pre-weighed filter pads, which are subsequently placed atop the photosensor for reflectance measurement. Calibration of the instrument is achieved using a black cavity standard (0 % reflectance) followed by a reference plaque with a known reflectance value. Reflectance values are averaged across duplicate samples to yield a reliable indicator of fuel stability: lower percent reflectance corresponds to higher insoluble content and diminished thermal stability. By automating calibration, data capture, and averaging protocols, the K30700 unit provides rapid, reproducible insights into fuel quality. This reflectance-based approach enables early detection of oxidative degradation, supporting safer storage, transport, and in-service use of critical distillate fuels.

Abstract# 130 - 10/15/2025 12:50 PM - South Lobby
Automated Dielectric Breakdown Testing of Insulating Fluids per ASTM D877 and D1816
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Lei Andre Delos Reyes - Koehler Instrument Company, Zachary Slade - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company
Electrical insulating fluids play a critical role in safeguarding high-voltage equipment by maintaining strong electrical resistance and preventing premature failure. This study presents the application of the Koehler Dielectric Breakdown Tester to assess dielectric strength and detect contamination in insulating oils according to ASTM D877 (disc electrodes) and ASTM D1816 (VDE electrodes). Sample preparation involves cleaning and aligning test electrodes, conditioning the fluid at a controlled ambient temperature (15 °C – 35 °C), and allowing a 10-minute equilibration period in the measuring cell. During testing, the voltage is ramped steadily until dielectric breakdown occurs; the instrument's integrated LCD display and thermal printer capture real-time voltage curves and average breakdown voltages for each sample. Comparative analyses highlight that synthetic ester-based fluids consistently exhibit higher breakdown voltages, indicating superior insulating performance. Regular dielectric testing enables early detection of oil degradation or contamination, ensuring optimal protection for transformers and other critical components. By automating test cycles and providing precise, reproducible results, the Koehler tester supports industry efforts to extend equipment lifespan and uphold safety standards.

Abstract# 133 - 10/15/2025 12:50 PM - South Lobby
Modernizing Dropping Point Testing Using Thermocouples
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Gerasimos Dimitratos - Koehler Instrument Company, Mojan Jafaripour - Koehler Instrument Company
The dropping point indicates the temperature at which a grease transitions from a semi-solid to a liquid state. This is an important parameter, since a grease that is fully liquid no longer possesses the same lubrication properties. This poster introduces enhancements to the traditional ASTM D2265 dropping point test. By incorporating a High Temperature Dropping Point Apparatus and by replacing the traditionally used mercury thermometers with thermocouples, we were able to create a safer and more accurate testing method. By modernizing the temperature sensing component, the new method not only maintains the same setup, heating rate, and sample requirements stipulated in ASTM D2265, it also greatly improves measurement precision, repeatability, and operator safety. Thermocouples allow for remote monitoring, which significantly lowers exposure risk to high-temperature equipment for an extended period of time. Thermocouples eliminate the use of mercury, a hazardous material linked to central nervous system, kidney, and liver damage. Thermocouples offer superior durability, longer service life, and reduced calibration needs. Furthermore, the redesigned setup eliminates the need for sample height alignment, significantly reducing errors that can be caused by the operator.

Abstract# 135 - 10/14/2025 01:00 PM - South Lobby
Sensitive Detection of Volatile Fatty Acids in High Ionic Water Matrix using Ion Chromatography hyphenated with Single Quad Mass
Sue Dantonio - Agilent, jay Gandhi - Metrohm USA
Ion Chromatography has been an analytical tool since 1975. At least for the last two decades, ion chromatography has been hyphenated with mass spectrometer (IC-MS). Since then it has enabled the scientists to expand the horizon of analytical science. In this poster presentation, authors will highlight several applications using IC-MS as tool for advanced detection, especially highlighting Volatile Fatty Acids (VFA) in high ionic water matrices.

Abstract# 138 - 10/14/2025 01:00 PM - South Lobby
Automated workflow for high-throughput PFAS sample preparation for solid matrices following EPA method 1633
Christopher Mitchell - Biotage
Per- and Polyfluoroalkyl Substances (PFAS) are toxic compounds known for their persistence, potential health risks, and their ability to accumulate in living organisms, including humans. As the concern about PFAS contamination grows, analytical methods become paramount in accurately detecting and quantifying these substances across different sample types. This work focuses on an automated workflow for the extraction PFAS in solid samples. The study evaluates the extraction performance using United States Environmental Protection Agency (USEPA) Method 1633 criteria for determining method detection limits (MDLs), precision, and accuracy for the determination of 40 target PFAS analytes. Sample homogenization, liquid extraction, solid phase extraction, solvent evaporation and concentration is performed in an efficient workflow utilizing the Biotage® Lysera, TurboVap® LV, and ExtraheraTM HV-5000. Results demonstrate measured detection limits, precision, and accuracy exceeding EPA method 1633 acceptance criteria for initial demonstration of capability. In addition, this work outlines a simple sample preparation technique that enables high throughput processing of samples while maintaining exceptional data quality. Advantages of this workflow include elimination of manual transfer steps, complete preparation of up to 24 samples in less than four hours, and minimal cleaning required between sample batches. In conclusion, this automated workflow offers a highly efficient and reliable solution for PFAS analysis in non-drinking water samples, addressing key challenges and surpassing EPA Method 1633 performance criteria.

Abstract# 139 - 10/15/2025 12:30 PM - South Lobby
Proposed ASTM Method for the Analysis of Water, Methanol and Ethyl Mercaptan in Liquid Petroleum Gas(LPG) by VUV LUMA GC Detection
Chris Goss - InnotechAlberta, Lee Marotta - Perkin ElmerPoster abstract submission for GCC consideration Dissolved water in Liquefied

Petroleum Gas (LPG) can cause freeze-up difficulties in pressure reducing systems, leading to safety, corrosion, and operational issues in LPG distribution systems. The current industry practice is to measure water content using the valve freeze test (ASTM D2713) however this is an indirect measurement, it requires venting of LPG which is a safety hazard and cannot be adapted to on-line analysis or process control. There has long been an industry requirement for alternative standard methods to quantitate water in LPG. Using gas chromatographic (GC) separations and the deconvolution (spectral) power of the LUMA detector, allows determination, at trace levels, water, methanol and ethyl mercaptan. The LUMA provides quantitation and qualification information of components to ensure false positives are not being reported. The researchers next steps will be to investigate certain permanent gases, hydrocarbon composition and other corrosive gases.

Abstract# 142 - 10/15/2025 12:30 PM - South Lobby
Benchmark Vision
Eric Calderon - Lk-Industries
Subjectivity should not be present in test results. When it comes to measuring water and sediment in crude oil, objective results are key to proper customer transfer and quality measurement. LK's newest Benchmark Platinum Centrifuge helps operators achieve better results by ensuring ASTM methods are followed correctly and by also capturing important details like GPS location, technician ID, and date/time of a test. This information is easy to see on the unit's new 7-inch HMI display. Paired with the industry's first BenchVision system, operators can capture and catalog an image of the sample result to ensure an audit trail is established.

Abstract# 149 - 10/15/2025 01:00 PM - South Lobby
Analyzing the Vapor Pressure Analyzer: Grasping the Reasons and Advancing the Methodology Behind Vapor Pressure Testing
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Yedu Unnithan - Koehler Instrument Company
Vapor pressure (VP) analysis is essential for evaluating the safety and performance of petrochemicals during storage, transportation, and use. Standardized since the 1930s with the adoption of ASTM D323, modern-day VP analysis has improved considerably, spurred by advancements in testing standards and instrumentation. This poster explores recent advancements in VP testing instrumentation, with particular focus on portable, automatic VP analyzers. These instruments are crucial to modern VP analysis due to their multi-standard testing capabilities, portability, operational ease and safety, and speed. Additionally, the poster examines the thermodynamics of VP generation and its importance to the petrochemical industry alongside the requirements a buyer should follow when purchasing a VP analyzer. Finally, it highlights a novel VP analyzer developed according to industry standards, demonstrating how it competes with increasingly expensive mainstream options while remaining cost-effective.

Abstract# 151 - 10/14/2025 02:00 PM - South Lobby
Holistic Analysis of Chemical and Physical Properties of Waste Plastic Pyrolysis Oil
Dr. Ramazan Oguz CANIAZ - PAC AC ANALYTICAL CONTROL
Waste plastic pyrolysis oil (WPPO) is rapidly emerging as a viable alternative feedstock for the petrochemical sector, supporting circular economy practices. To address the complexity of WPPO characterization, PAC has developed a holistic analytical workflow that combines classical and advanced techniques for both chemical and physical property evaluation. Our studies applied a broad suite of methodologies, including true group type analysis, ppb level elemental analysis, complementary distillation covering simulated-physical-mini measurements etc. By using Flow Modulated GC×GC-FID & prefrac-Reformulyzer, we achieved detailed separation of olefins in heavier fractions, while mini-distillation (requiring only 10 mL of sample in ~10 minutes) provided rapid screening insights for process optimization. Simulated distillation revealed high paraffinic content and entrained heavy ends in light fractions, highlighting intrinsic challenges for upgrading. Traditional distillation confirmed product quality pathways for industry adoption. Complementary elemental analyses further clarified impurity profiles—one of the most critical barriers to widespread WPPO utilization. Further physical property analysis such as flash point, viscosity and pour point cemented the holistic characterization study enabling the process engineers to better finetune their processing conditions while both manufacturing and upgrading WPPO. This integrated framework provides a comprehensive understanding of WPPO properties, enabling researchers and process engineers to benchmark quality, optimize refining strategies, and secure reliable product specifications. By advancing practical, high-resolution analytical tools, PAC supports the petrochemical industry's pursuit of innovation, efficiency, and sustainability through plastic circularity.

Abstract# 159 - 10/14/2025 01:00 PM - South Lobby
Improving Gas Sample Conditioning: Integrating a Heatless dryer for Optimal Nafion™ System Performance
Anthony Addeo - Perma Pure, Joseph D'Alterio - Perma Pure
Perma Pure Nafion™-based dryers rely on a clean, dry purge gas to effectively lower sample dew points for industrial gas analysis. In applications such as Continuous Emissions Monitoring Systems (CEMS) and biogas, clean instrument air is often unavailable, forcing reliance on ambient or semi-dry purge gas that reduces dryer efficiency and accelerates analyzer wear. Ultra-dry compressed cylinders provide performance but are costly, impractical in the field, and quickly depleted. To address this, Perma Pure integrates a compact Heatless Dryer upstream of the Hybrid Cooler, lowering purge dew points to ~–50 °C and boosting drying efficiency by up to 30%.

Abstract# 165 - 10/14/2025 01:00 PM - South Lobby
Evaluating Coastal Prairie Soils for Long-Term Carbon Removal
Pauline Nguyen - University of Houston, Jagos Radovic - University of Houston, Thomas Malloy - University of Houston
Carbon Capture, Utilization, and Storage (CCUS) technologies are vital for reducing atmospheric CO_2. This study investigates the potential of coastal prairie soils at the University of Houston Coastal Center (UHCC) to act as long-term carbon sinks. Thirty-five soil samples from topsoil and subsoil layers were analyzed using RockEval 6 pyrolysis. TOC ranged from 0.16% to 4.05%, with S1 values of 0.02-0.13 mg/g and S2 values of 0.17-6.63 mg/g, revealing variability in labile and resistant carbon pools. These findings highlight the potential of prairie soils in scalable, cost-effective carbon dioxide removal (CDR) strategies.

Abstract# 186 - 10/15/2025 12:30 PM - South Lobby
A New Software Tool for Standardization of GCxGC Group-Type Templates
Christina Kelly - LECO Corporation, John Hayes - LECO Corporation, Joe Binkley - LECO Corporation
As routine methods using comprehensive multidimensional gas chromatography (GCxGC) gain acceptance, creative solutions to traditional standardization challenges have emerged. One such solution is the LECO ChromaTOF feature "Classification Correction," which allows for the simple adjustment of group-type templates between samples collected with different acquisition parameters. Designed to compensate for retention time shifts due to routine GC maintenance such as column trimming or replacement, "Classification Correction" enables the creation of shareable methods from system-to-system and provides valuable time-savings, easing the adoption of newer, more efficient routine GCxGC analyses. This poster shows the utility of the ChromaTOF software package for not only the bulk group-type analysis of alternative aviation fuels, but also the power of detailed hydrocarbon analysis made possible when GCxGC is coupled to time-of-flight mass spectrometry (TOFMS).

Abstract# 196 - 10/14/2025 01:00 PM - South Lobby
Supercritical Fluid Cartridges for Calibration
Randall Shearer - Liquen Technologies, Oscar Spichiger - Liquen Technologies, Craig Williford - Liquen Technologies, John Birks - Liquen Technologies
Liquen Technologies develops portable, affordable, and reliable tools for calibrating gas analyzers and sensors. Our patent pending technology takes advantage of the unique solvating and physical properties of supercritical fluids. When a cartridge is heated above its critical temperature of 31.1°C, CO2 becomes a supercritical fluid having a uniform density (single phase), making it possible to deliver constant concentrations of pollutant gases at trace (ppb and ppm) levels. CO2 cartridges produce ~4 times more gas volume than a pressurized cylinder of the same physical volume and pressure. Notably, nano and micron sized polystyrene latex microspheres are well dispersed and dynamically delivered.

Abstract# 200 - 10/14/2025 02:00 PM - South Lobby
Rheological Characterization of Lubricating Greases in Accordance with DIN 51810
Naimul Hoque - Anton Paar USA
Lubricating greases are critical for reliable mechanical performance under extreme conditions. Standardized rheological testing is essential to characterize their viscoelastic and temperature-dependent behavior. In this study, greases of various National Lubricating Grease Institute (NLGI) grades were evaluated using an Anton Paar Modular Compact Rheometer (MCR) equipped with a Peltier Temperature Device (PTD), in accordance with DIN 51810. Part 1 measured shear viscosity of NLGI grade 1 grease; Part 2 assessed yield and flow points of grades 0–2 at +25 °C and –40 °C; Part 4 determined consistency of metal-saponified greases. Results confirm the Anton Paar MCR with PTD as an accurate, reproducible, cost-effective tool for grease classification.

Abstract# 201 - 10/14/2025 02:00 PM - South Lobby
Advanced Fuel and Petrochemical Analysis with Comprehensive Two-Dimensional Gas Chromatography (Flow Modulated GCxGC-FID)
Nicole Lock - Precision Analyzer Company (PAC)
As the energy and chemical sectors undergo rapid transformation, analytical demands for characterizing increasingly diverse and complex feedstocks are growing. Conventional fuels, sustainable aviation fuel (SAF), waste-derived pyrolysis oils, and emerging renewable intermediates all present compositional challenges that cannot be fully resolved by one-dimensional gas chromatography. Comprehensive two-dimensional gas chromatography (Flow Modulated GCxGC-FID) addresses this need by providing superior separation efficiency, structured group-type analysis, and enhanced quantification reliability.
Following the framework of ASTM D8396, Flow Modulated GCxGC-FID enables laboratories to routinely determine mass percentages of paraffins, naphthenes, and aromatics—critical information for both conventional jet fuel compliance and the qualification of new SAF pathways. This capability ensures not only safety and performance at altitude but also supports regulatory and sustainability reporting requirements. Beyond aviation fuels, the same Flow Modulated GCxGC-FID approach is increasingly relevant for petrochemical streams, where detailed group-type distribution provides insights into process optimization and catalyst performance.
The poster will highlight real raw data demonstrating how Flow Modulated GCxGC-FID delivers actionable compositional insights across fuels and petrochemical streams, including examples with emerging renewable feeds. These results illustrate how multidimensional chromatography is moving from advanced research into routine, reliable analysis, enabling industry stakeholders to accelerate innovation while ensuring compliance and quality.

Abstract# 203 - 10/15/2025 12:30 PM - South Lobby
Advancing sustainable fuel characterisation with GC×GC
Matthew Edwards - SepSolve Analytical, Laura McGregor - SepSolve Analytical, Khaled Murtada - SepSolve Analytical, Jonathan Grandy - SepSolve Analytical, Anthony Buchanan - SepSolve Analytical
Comprehensive two-dimensional gas chromatography (GC×GC) provides a robust solution for characterising sustainable aviation fuels (SAFs) and other renewable fuel streams. Its enhanced separation capacity resolves the complexity of hydrocarbon mixtures, while detection with flame ionisation or time-of-flight mass spectrometry delivers both quantitative and qualitative data. This enables detailed class distribution profiling, trace component identification, and effective monitoring against regulatory requirements. Compared with conventional GC, GC×GC offers higher peak capacity and structured chromatograms, delivering greater confidence in assessing fuel composition, performance, and stability - supporting the development and deployment of low-carbon energy sources.

Abstract# 205 - 10/15/2025 12:30 PM - South Lobby
Driving efficiency in petrochemical analysis with hyper-fast GC
Matthew Edwards - SepSolve Analytical, Laura McGregor - SepSolve Analytical, Khaled Murtada - SepSolve Analytical, Anthony Buchanan - SepSolve Analytical, Jonathan Grandy - SepSolve Analytical

Petrochemical streams demand rapid and reliable analysis to support both process monitoring and quality control. Conventional GC methods often lack the speed required, limiting throughput and delaying operational decisions. Hyper-fast GC overcomes these challenges by delivering high-resolution separations in seconds through flow-field thermal gradient technology. A dedicated cooling system enables low starting temperatures (around 20 °C) while the negative thermal gradient slows the peak front relative to the tail, ensuring consistently sharp, Gaussian-shaped peaks. The result is a energy-efficient platform that improves laboratory productivity and provides faster insight for decision-making in petrochemical workflows.

Abstract# 206 - 10/15/2025 12:30 PM - South Lobby
The Model E Advantage: Precision Ethanol Analysis for Fuel Blenders and Refiners
April Zamora - CFR - WI Instruments
Volatile feedstock prices, tightening specifications, and decarbonization incentives are compressing margins across the fuel-ethanol value chain—from fermentation through dehydration, denaturing, and final gasoline blending. Producers and blenders must verify ethanol purity, water and methanol content, and denaturant levels quickly and defensibly to meet regulatory and contractual limits while minimizing product giveaway and rework.
WI Instruments' Model E, a compact benchtop ethanol analyzer that uses a patented solid-state based Mid-IR spectrometer with integrated chemometric models to deliver laboratory-grade precision and accuracy in a single streamlined run, typically completed within minutes, with minimal operator involvement. The instrument's robust design with no moving optical components, no fragile optics that require desiccants or purging, automated self-verification routines, integrated chemometric models, and rapid measurement cycle are designed to sustain calibration stability and traceability under high-throughput conditions typical of production QC labs. We present a multi-site evaluation spanning fuel-grade ethanol, intermediate process streams, and fuel ethanol blends. Precision and bias are benchmarked against referee methods commonly used in the industry, demonstrating that Model E achieves repeatability, reproducibility, and accuracy within typical ASTM/ISO method tolerances while reducing analysis cycle time and consumables to near zero. Workflow and economic impacts are further quantified with an operator time study and a cost-of-quality model that captures avoided off-spec batches, faster release decisions, and reduced solvent/disposal costs versus conventional wet-chemistry and chromatographic techniques. Best-practice guidance is offered for method validation, routine verification, and calibration governance to ensure sustained confidence throughout the instrument lifecycle.
Model E enables ethanol producers and blenders to maintain compliance, protect yield, and respond faster to process excursions—delivering actionable, defensible measurements at the speed modern operations demand.

Abstract# 210 - 10/14/2025 01:00 PM - South Lobby
Unveiling Microplastics: Precision Analysis Using Py-GCMS Technology
James Pachlhofer - Thermo Fisher Scientific, Andy Fornadel - Thermo Fisher Scientific, Daniela Cavagnino - Thermo Fisher Scientific
This poster highlights the application of Pyrolysis-Gas Chromatography-Mass Spectrometry (Py-GCMS) in the precise determination of microplastics in environmental samples. Py-GCMS offers a robust analytical approach, enabling the identification and quantification of microplastic polymers with high sensitivity and specificity. Our findings demonstrate the method's efficacy in detecting various polymer types, including polyethylene, polypropylene, and polystyrene, even at trace levels. The integration of Py-GCMS not only enhances the accuracy of microplastic analysis but also provides critical insights into their environmental distribution and potential impact. This advanced technique is pivotal for researchers aiming to address the growing concern of microplastic pollution.

Abstract# 211 - 10/14/2025 01:20 PM - South Lobby
VOC Air Analysis by TD-GCMS Using Hydrogen Carrier Gas: A Sustainable, High-Performance Solution
James Pachlhofer - Thermo Fisher Scientific
This poster presents the analysis of volatile organic compounds (VOCs) using thermal desorption coupled with GC-MS, leveraging hydrogen as carrier gas. Hydrogen offers faster separations, improved chromatographic resolution, and reduced operating costs compared to helium, while supporting laboratories in meeting sustainability goals. The method achieves sub-ppb detection limits for target VOCs with excellent linearity and reproducibility. Results confirm that hydrogen does not compromise GCMS data quality and enables high-throughput analysis crucial for environmental monitoring. This approach provides a robust, cost-effective, and future-proof solution for laboratories facing helium supply challenges.

Abstract# 219 - 10/15/2025 12:50 PM - South Lobby
Capturing Fluid Contamination: A Snapshot into the Automatic Direct-Imaging Fluid Particle Analyzer
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Yedu Unnithan - Koehler Instrument Company
Fluid purity is critical for the reliable operation of equipment that relies on operational fluids such as fuels, lubricants, hydraulic oils, and gases. Contaminated fluids can cause premature component wear, performance issues, equipment failure, and financial loss, depending on the severity. Typical contaminants such as water, dirt, and metal particles are often introduced during fluid production, transportation, or use. To ensure fluid cleanliness, wear particle analysis must be performed whenever contamination risk is high. Automatic contaminant particle analyzers streamline this process using highly-sensitive cameras, high-contrast lighting, and precisely-timed software to determine wear particle type, size, and concentration. This information enables producers, shippers, and end-users to identify and remediate any sources of contamination, helping maintain fluid integrity throughout the supply chain. This poster examines an automatic particle analyzer, a direct-imagining based instrument capable of multi-dimensional particle analysis. It also explores the advantages of optical particle analysis compared to laser-based and manual methods.

Abstract# 220 - 10/14/2025 02:20 PM - South Lobby
Modern Day Lubrication Demands: Exploring Lubricant Analysis Instrumentation for Electric Vehicle (EV) Lubricants
Dr. Raj Shah - Koehler Instrument Company, Angelina Precilla - Koehler Instrument Company, Yedu Unnithan - Koehler Instrument Company
Electric vehicle (EVs) adoption continues to rise as passenger, fleet, and commercial sectors increase EV usage. As the automotive industry shifts towards electrification, the integration of high-voltage mechanical systems introduces new lubrication challenges. Therefore, EV powertrain lubrication requirements differ from those of conventional internal combustion-engine powertrains. EV powertrain bearings must handle increased axial loads, higher rotational speeds, and specific electrical conductivity requirements. Depending on the application, EV-specific lubricants may need to perform under high-speed, high-load, and high-voltage conditions. Additional requirements include noise dampening, copper compatibility, cooling capability, and high-temperature stability. Lubricant analysis plays a crucial role in ensuring these lubricants meet new and traditional tribological standards. This poster explores the real-life challenges EV lubricants face and highlights solutions provided by lubricant analysis instrumentation. These sophisticated tools accelerate testing by automating ASTM and related procedures, enabling faster, more reliable, and repeatable analysis for improved lubricant research and development.

Abstract# 223
- 10/14/2025 01:00 PM - South Lobby
Microplastics – An Emerging Contaminate of Concern: Reference Material Design
Dan Biggerstaff - LGC Standards
There has been a rapid increase in research surrounding microplastics. In 2014, there were 20 publications in the Elsevier's Scopus database with "microplastics" as a key word. That increased to almost 6,000 in 2024. The discovery that microplastics bioaccumulate in the liver, kidneys, lungs, and brain has spurred research in method development for environmental testing, food testing, and toxicology. The lack of reference materials, however, makes it difficult to compare and validate methods. The large variability in microplastic type, size, and morphology complicates the design process. This work shows the challenges in

Abstract# 224 - 10/14/2025 02:00 PM - South Lobby
Molecular Rotational Resonance Technique for Rapid Analysis of Small Polar Impurities in Complex Mixtures
Sylvestre Twagirayezu - Lamar University, Justin Neill - BrightSpec
We report recent advances in applying molecular rotational resonance (MRR) spectroscopy to environmental and petroleum analysis. Specifically, BrightSpec MRR techniques were employed (i) to monitor the products of heated mixtures of sulfur dioxide (SO_2) and oxygen (O_2) in the presence of ammonium metavanadate (NH_4VO_3) as a catalyst, and (ii) to directly detect small polar impurities in gasoline. The resulting spectra exhibited rich but well-resolved rotational patterns, reflecting MRR's inherent sensitivity to polar analytes. Spectral analysis enabled unambiguous identification of multiple species without requiring chemical separation. Linearity tests and limit-of-detection studies confirmed the analytical robustness of the method. These findings highlight the key advantages of MRR—high resolution, molecular specificity, and rapid multi-component detection in a single measurement. Ongoing efforts on expanding the range of applications to complex chemical systems will be given in this presentation

Abstract# 244 - 10/15/2025 12:30 PM - South Lobby
In an effort to reduce carbon emissions, the international community is actively moving towards the implementation of decarbonized
chris goss - InnotechAlberta, Lee Marotta - Perkin Elmer, Leeman Bennington - Perkin Elmer
In an effort to reduce carbon emissions, the international community is actively moving towards the implementation of decarbonized solutions for use in energy production and transportation. Hydrogen is an energy dense alternative to carbon-based fuels which many industries are exploring to reduce greenhouse gas and carbons emissions. Hydrogen fuel purity is essential to maintain safe, efficient, and long-lasting operation of hydrogen fuel cell technology. Presently, ISO 14687:2019 and SAE J2719:2020 are the prevailing hydrogen fuel standards for quality specifications. These standards outline the upper limits of specific contaminants known to reduce the efficiency of fuel cell technology and potentially cause irreversible damage to critical fuel cell components. This presentation will dive into hydrogen purity analysis using gas chromatography and infrared spectroscopy for trace level detection of contaminants for hydrogen fuel specification testing. Data presented will demonstrate the ability of GC and IR to meet and/or exceed the required detection limits and criteria for current hydrogen fuel purity certification. Topics will also include considerations for instrument calibration and operation to ensure a laboratory is equipped for success as demands for hydrogen purity analysis grow.

Abstract# 246 - 10/15/2025 12:30 PM - South Lobby
Enhance Oil & Gas Lab Efficiency with AI and Clear Data Insights
Chad Stanton - Thermo Fisher Scientific
Thermo Scientific™ SampleManager™ LIMS provides the structured data backbone that enables clear, decision-ready insights and responsible use of AI/ML—unlocking the hidden value in your data. By contextualising results, methods and metadata in one platform, SampleManager LIMS turns raw laboratory output into actionable insights that support confident decision-making across oil & gas workflows.
The Data Analytics Solutions for SampleManager LIMS accelerate implementation with pre-configured capabilities: the Autonomous Test Revisor (ATR) applies lab-specific AI models to flag anomalous results and support review-by-exception; the AI Solution adds exploratory analysis, profiling and forecasting to help predict test results and future sample volumes; and Business Intelligence (BI) dashboards deliver interactive KPI views—spanning resource availability, stock status and process performance—with drill-down clarity. Together, these tools surface trends and exceptions sooner, contextualise results, and help teams act with confidence while maintaining established review and release processes.

Abstract# 248 - 10/14/2025 02:00 PM - South Lobby
A chemometric machine learning framework for oil classification: A California case study
Kyra Bennett - University of Houston, Ana Vielma - University of Houston, Joseph Curiale - University of Houston, Thomas Malloy - University of Houston, Jagoš Radović - University of Houston
Chemometrics, enhanced by machine learning, enables advanced analysis of oil geochemistry for reservoir characterization, exploration, and environmental monitoring. Using a dataset from Peters et al. (2008), we developed a decision tree model to classify California oils, seeps, tar balls, and source-rock extracts based on 19 geochemical ratios, achieving ~91% training accuracy but with signs of overfitting. Feature importance highlighted biomarkers such as bisnorhopane. Expanding to 82 new California crude oil samples with GC-MS/MS, we incorporated unconventional biomarkers, including diamondoids and carbazoles, and compared multiple ML approaches, showing promise for broader oil classification applications.

Abstract # 281 - 10/15/2025 12:00 PM – South Lobby
Co-polymer structural differentiation using Electron-Assisted Dissociation Mass Spectrometry
***Megumi Shimizu* – SCIEX**
Co-polymers, made of two or more different monomer units, are classified by monomer arrangement. Random co-polymers have monomers distributed irregularly, while block co-polymers contain long, uniform segments. Differentiating between these types is crucial for applications in material science, where the specific arrangement of monomers can significantly influence the material's properties and performance. This study explores the application of ESI (Electrospray Ionization)-EAD (Electron-activated dissociation)-TOF (Time-of-flight) mass spectrometry for differentiating random and block copolymers. EAD generates unique fragmentation patterns, offering comprehensive structural insights. Our findings highlight the potential of EAD to enhance the accuracy and reliability of co-polymer characterization.

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Brookhaven Instruments Corporation designs, manufactures, and sells quality analytical instruments worldwide used in research, development, process and quality control. Specializing in characterizing protein size, charge, and molecular weight as well as nanoparticle size and zeta potential, Brookhaven Instruments is a pioneer in the material characterization field.
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Booth Number: 904

CFR Engines
CFR Engines Inc. (CFR®) is a leading, global manufacturer of fuel rating test instruments and equipment. For over 95 years, CFR made-in-USA products have provided value and confidence in Gasoline and Diesel fuel quality. XCP® TECHNOLOGY provides computer-based accuracy and process accountability. Your first choice in fuel testing globally with CFR F1/F2 for Octane (D2699/D2700), CFR F5 for Cetane (D613), CFR Ignition Quality Tester (IQT®) for Cetane (D6890), CFR Continuous Testing System (CTS) for Online Direct Comparison (D2885), and CFR WI Instruments Model E (conforms to D5845) for Ethanol Purity. CFR continues its tradition with advanced technology, robust design, and strict manufacturing processes.
Booth Number: 419

Chemplex Industries Inc
A leading global provider of Sample Preparation Products. Chemplex® is the manufacturer of over 40 different sizes and styles of sample cups along with thin-film sample supports, including our exclusive SpectroMembrane® thin-film carrier frames with a variety of thin-film material such as Etnom®, Prolene®, Mylar® and more, in a range of thicknesses. Our line of Calibration and Check standards will enable to you routinely maintain consistent results. Our G and E Series Automated Fluxers consistently prepare fused beads for XRF and solutions for ICP, AA analysis. High quality platinum ware is available for any Fluxer including our PREP program to replace unusable platinum ware with new ones at a fraction of the cost. A line of grinders and pellet presses are available to consistently prepare solid samples for any application.
Booth Number: 413

Chemspeed Technologies, Inc.
Rooted in science, Chemspeed's automation platforms, digital solutions and application expertise are used everyday in the top R&D and QC labs across the globe. Chemspeed is the leading provider of high throughput and high output research & development and quality control workflow solutions - from single bench-top / standalone automated workstations to fully automated, integrated, partial / entire product development workflows across the entire range of industries and academia. We are scientists at heart - we know what scientists need and we design our systems with this deep understanding at the core of each project.
Booth Number: 101

Choice Analytical, Inc.
Choice Analytical, Inc. is a leading-edge analytical instrumentation company focused on cutting edge technology backed up by knowledgeable, experienced and caring professionals. We work with state-of-the-art manufacturers supplying the most innovative instrumentation for the Petroleum, Petrochemical and Bio-fuel industries as well as developing unique products for automated color and haze testing. Our strategic location along the Gulf Coast keeps us in the forefront of the latest developments, regulations and requirements in this complex industry.
Booth Number: 821

cmc Instruments GmbH
cmc Instruments GmbH is the German manufacturer of lab-grade gas generators for lab analysis, MS, GC, and R&D with the highest delivered purity at constant flow for Nitrogen, Hydrogen, Zero Air, Purge Gas, Pure Gas, TOC synthetic air at different capacities. Designed to help you keep your analysis at its top with an easy-to-perform preventive maintenance and a long-lasting operational life.
Booth Number: 1119

COLD SHOT CHILLERS
Booth Number: 321

Compass Instruments
Compass Instruments, an ISO 9001:2015 Registered Company, is Your Source for Fuels, Lubricants and Materials Testing Equipment in the US and Canada. Our portfolio includes D-2 Incorporated, Grabner Instruments MINI-VAP ONLINE, Falex, Normalab, PCS Instruments, PILODIST GmbH, Rudolph Analytical Research, Stanhope-Seta, Tannas & King Refrigeration as well as XOS Process Analyzers. A short sampling of our extensive physical property test equipment includes Oxidation Stability of Aviation Turbine Fuels, Vapor Pressure, Aviation Fuel Property Sensors, Fuel Lubricity, Distillation, Flash Point, Cold Flow, Density and a wide variety of instruments for tribology testing as well as other petroleum and material testing equipment capabilities. Our state-of-the-art technical equipment is supported by one of the most experienced sales and service groups in North America. Compass Instruments is also ISO 17025:2017 Accredited
Booth Number: 627

Conquer Scientific
Booth Number: 1124

Custom Solutions Group LLC
Custom Solutions Group was formed in April 2004 to provide U.S. based gas chromatographers with the highest quality, customized solutions in gas chromatography. Since then, CSG operations have expanded to include clients all over the world. In conjunction with Agilent, Custom Solutions Group designs, builds, and commissions new and used gas chromatographs, customized to meet the needs and the specific analytical challenges of scientists, chemists, engineers, and technicians in a variety of industries, including: petroleum, petrochemical, natural gas, industrial gas, specialty gas, specialty chemical, semi-conductor and electronics gas, catalysis, biofuels, and research industries.
Booth Number: 110

Cytiva
At Cytiva, we envision a world in which access to life-changing therapies transforms human health. With a rich heritage dating back hundreds of years, our wealth of technical expertise and talent, a broad and deep portfolio, and exceptional service help researchers and biopharma advance therapeutics at every stage from discovery to delivery. Cytiva is part of Danaher, a global science and technology leader. Along with Danaher's diagnostic and life sciences businesses, we bring an innovative mindset to our collaborations with customers to help them improve patient outcomes.
Booth Number: 707

DC Scientific
DC Scientific is a Manufacturer of high-quality ASTM glassware, an ISO 17025 Accredited Calibration Lab and Service provider, and a leading Distributor of innovative, dependable instruments and reference materials for the Petroleum-Chemical Industry. Our Mission is to provide client-level support and service, application-specific knowledge, and 'fit-for-purpose' solutions for the needs of the modern laboratory.
Booth Number: 306

DCG PARTNERSHIP I, LTD.
DCG Partnership is a leading global manufacturer of certified reference materials serving refineries, natural gas, LNG, Instrument Manufacturers, chemical, Testing & Inspection and research Laboratories. Our products offered span the petroleum, petrochemical, hydrocarbon, biodiesel and natural gas industries. Our goal is to support our customers by offering high quality products that provide consistent results to ensure analytical precision and accuracy.
Booth Number: 122

Dott.Gianni SCAVINI Srl - Italy (Petroleum Testing Lab Equipment)
Dott. Gianni Scavini Srl - Italy - has been manufacturing high-quality petroleum products testing laboratory equipment since 1957. acc. to ASTM, IP, DIN, AFNOR, CEC, IEC, etc. Scavini's product line is developed and manufactured at the company's headquarters in Baveno, Italy. Each item is hand-assembled and undergoes rigorous quality testing on-site. Scavini incorporates more than 70 years of experience in the development and manufacturing of high-class petroleum laboratory instrumentation. Today, our product portfolio includes Manual and Automatic Flash Point Testers, Cold Properties Analyzers, Antifreeze and coolants testing Equipment, Oxidation Stability Apparatus for Fuel,Lubricant and Grease., Automated and Manual Demulsibility Apparatus, Foaming Testers, Low and High-Temperature Viscosity Baths., Rust prevention Apparatus, Silver and Corrosion baths, Gum Tester, Hydrolytic Stability Oven, Ductility Machine, Penetrometer, Softening Point Apparatus, RTFOT Oven, etc. Scavini's extensive sales network across more than 100 countries ensures customers receive prompt support and solutions to their application and service inquiries.
Booth Number: 103

ECH America Inc
ECH America based in Houston are part of ECH Elektrochemie Halle (Germany). ECH develop and produce a range of equipment to accurately determine water contents, H2S/sulphides and gas composition. Aquamax KF, Titramax VT and Sulfimax GX are well renowned ECH brands being used by all leading petroleum, used oil and petrochemical testing facilities.
Booth Number: 1111

Element Staffing Services
Element Staffing Services is an industry-leading, scientific and technical staffing company, offering contract, contract to hire, direct placement, and payroll services to companies and organizations within the Petrochemical, Specialty Chemical, Oil and Gas, Biotechnology, Pharmaceutical, Material Science, Food and Beverage, Consumer Care, Medical and Clinical Research Industries. Element's mission is to become a trusted partner by providing the most qualified scientific and technical talent for our clients and by creating pathways for career advancement for our candidates. We promise to deliver results while always abiding by our core principles of integrity, professionalism, and excellence
Booth Number: 626

Elementar Americas
Elementar is the world leader in high performance analysis of organic and inorganic elements. For 125 years, continuous innovation, creative solutions and comprehensive support form the foundation of the Elementar brand, ensuring we continue to support your work in the advancement of high-precision fuel analysis and petrochemical products throughout the whole production process. Stop by and meet Elementar – your essential partner in elemental analysis.
Booth Number: 315

Endress+Hauser
Endress+Hauser, a global leader in measurement and automation technologies for process and laboratory applications, is a family-owned company with a broad portfolio of services, solutions and instrumentation. Endress+Hauser serves customers in the chemical, food and beverage, life sciences, power and energy, oil and gas and water and wastewater industries. The company's products provide valuable data and insights into processes, support process optimization, efficiency and safety for people and the environment. Today, Endress+Hauser has more than 8,600 patents and patent applications.
Booth Number: 825

Entech Instruments, Inc.
Entech Instruments is a global leader in analytical instrumentation for Environmental Monitoring, Soil & Water Testing, Industrial Hygiene, Food Safety, Aroma R&D, Material Emissions, Forensics, and Clinical Analysis. We specialize in inert air/gas sampling, chemical extraction, preconcentration, and GC/MS sample prep. Our proprietary Silonite treatment makes surfaces as inert as GC columns, improving recovery of volatiles and semi-volatiles. With over 30 years of innovation, Entech has significantly advanced the science of VOC collection, storage, and analysis.
Booth Number: 201

Envantage, Inc
Envantage offers chromatography instrument and software solutions to refineries and petrochemical laboratories. We build and service applicated systems and standardized ISO/ASTM analyzers. Our standardized Dragon II SimDist, DHA and MergeIT software applications are in widespread use in laboratories around the world. We maintain expertise in a variety of hardware, CDS, and informatics systems. We operate an Octane Engine Service Center in Beaumont, TX where we offer training, refurbishment and repair. We have recently acquired Electronic Systems Design (ESD) as part of our offerings.
Booth Number: 302

Environmental Express
Environmental Express is your trusted partner for innovation, development and manufacture of sample collection, preparation, single use consumables and analysis equipment used in environmental water, soil and air regulatory compliance testing. We provide reliable and dependable products and services that improve laboratory procedures and deliver accurate results for regulated testing of air quality, occupational health, water/wastewater, metals, hazardous waste, and other environmental analysis.
Booth Number: 1206

Expotech USA, Inc.
Expotech USA is a global award-winning supplier of scientific, chemical, and industrial supplies & instruments. As an ISO Certified business with over 40 years of experience, Expotech offers access to a comprehensive list of over 100 manufacturers needed for laboratories & researchers in academia, government, and the private sector. Expotech ensures customers get the best products at competitive rates, backed by expert service and support. Expotech's Houston office includes 46,000 square feet of warehouse space with the capability to stock critical materials for immediate shipment as well as the staff & facilities for storage, handling, and international shipping of hazardous materials.
Booth Number: 1005

Fisher Scientific
As the premier scientific marketplace, the Fisher Scientific channel has defined choice and convenience for over a century. We keep science moving forward by offering over 2.5 million products and extensive support services to the research, production, healthcare, and science education markets around the world. Count on us for all the elements you need to accelerate innovation, enhance productivity, and increase speed to market.
Booth Number: 1008

Fox Scientific, Inc.
Established in 1988, Fox Scientific, Inc. is a wholesale stocking distributor offering a full line of laboratory supplies, chemicals and equipment from a wide range of manufacturers. We are well positioned to be your next PRIME supplier!
Booth Number: 1218

Frontier Lab
Frontier Laboratories is the world's leading manufacturer of materials characterization systems, including micro-furnace pyrolyzers, Rapid catalyst screening analyzers, capillary columns, patented data interpretation libraries, and cryo mill devices. Frontier Lab products are compatible with most major manufacturers' gas chromatographs and mass spectrometers.
Booth Number: 1024

General Laboratory Supply
Booth Number: 124

GERSTEL, Inc
GERSTEL Inc. specializes in providing automated sample preparation and introduction solutions for Gas Chromatography-Mass Spectrometry (GC-MS) and Liquid Chromatography-Mass Spectrometry (LC-MS) chemical analysis. Our systems help our customers overcome critical challenges in sample preparation, clean-up, and high throughput while achieving the lowest detection limits possible. At GERSTEL Inc., we are committed to providing Lifetime Support® to ensure our customers receive the best possible service.
Booth Number: 517

GFS Chemicals
GFS Chemicals is a US based manufacturer of specialty and fine chemicals serving customers worldwide since 1928. As an ISO 9001:2015 manufacturer, GFS' manufactures ACS and Reagent grade materials, dyes, indicators, Biochemical tested materials, turbidity and spectroscopy standards and other common laboratory reagents for use in the research, analytical and manufacturing laboratories. Additionally, GFS manufactures its own line of Trace Metal (PPB/PPT) Acids, high quality Karl Fischer reagents that cover both volumetric and coulometric applications and ISO 17025, NIST traceable water standards. For more information, please visit www.gfschemicals.com or call GFS at (800) 858-9682.
Booth Number: 1117

Glass Expansion
Glass Expansion is an international supplier with over 40 years of experience in manufacturing ICP-OES and ICP-MS sample introduction consumables and accessories. During this time, Glass Expansion has earned a world-wide reputation for quality, reliability, and customer support. Simply put, our consumables offer the best value for the money-the unrivaled performance, reliability, and robustness of Glass Expansion products result in maximal performance and minimal downtime. Glass Expansion is also able to provide consumables for virtually the entire range of ICP-OES and ICP-MS currently in the market place. No other supplier can do that with high quality products and great support.
Booth Number: 921

Grabner Instruments
Grabner Instruments, a subsidiary of AMETEK, Inc. is known as one of the most innovative companies world wide developing and manufacturing automatic petroleum testing equipment. Grabner Instruments' success is based on the development of highly innovative, fully automated, portable, rugged and fast & easy to operate fuel and oil analyzers for the highly accurate quality control in the laboratory as well as for fast on-site tests in mobile laboratories.
Booth Number: 221

Grace Instrument
Grace Instrument is a US based manufacturer of quality and innovative testing instruments. Improve quality, increase efficiency, and reduce costs with our Dilute Solution Viscometer (DSV). With the ability to accurately and batch test a wide array of polymers with full automation our DSV you can measure absolute, inherent, intrinsic, relative, or specific viscosity in a single test session.
Booth Number: 1023

H2I Group
From petrochemical and life sciences to pharma and forensics, we partner with leading manufacturers to design, manage, and offer world-class laboratory design and lab equipment installation that leads to innovative breakthroughs and discoveries. As a 100-year-old company, when you work with us, you get an experienced, knowledgeable, and reliable team that takes the time to understand and customize a trusted solution with one goal: yours.
Booth Number: 815

Hach CO
Since our founding in 1933, Hach® has led the industry in developing innovative solutions to help our customers analyze their water more efficiently and more effectively. Today, Hach products can be found around the globe in a wide range of lab, field, and in-process uses in municipal and industrial facilities. Hach analytics solutions are designed to give operators and managers confidence in the many decisions they make to ensure compliance, improve energy efficiency, and reduce waste in production, product quality, and utilities management. Be confident in your water analysis. Be right with expert answers, outstanding support, and reliable, easy-to-use solutions from Hach.
Booth Number: 1219

HandyTube
At HandyTube, we manufacture premium seamless stainless steel tubing that excels in the toughest applications, with diameters as small as a human hair and coiled lengths as long as a mile. Our tubing is durable, precise and pure, delivering high-quality results in harsh and rugged operating environments in industries such as chemical processing, aerospace, energy and more. And, thanks to our lean manufacturing processes, we can deliver precision-engineered, customer-specific tubing with fast lead times.
Booth Number: 112

Hanna Instruments, Inc
Hanna's analytical and scientific instruments help companies and consumers achieve the highest standard of quality assurance in testing. Our solutions help the scientific community and home users produce accurate, precise, and repeatable results through simple, affordable, high quality solutions with personalized customer service. Thousands of consumers and major brands trust Hanna for their testing needs, giving them confidence in their analysis.
Booth Number: 1120

HORIBA Instruments Incorporated
HORIBA P&E provides a wide range of technologies to measure air, water, and soil quality. As an ISO certified manufacture its measurement technologies that comply with environmental regulations around the world and contributes to the development of environmental conservation. Applications in air pollution, stack gas monitoring, multi-component process gas analysis, process water, water pollution and water quality. HORIBA provides engineering, design, and system integration services for continuous process analyzer systems. HORIBA's engineering team can evaluate your current process or environmental conditions to make recommendations that improve process conditions and compliance with EPA Reg.
Booth Number: 309

Huber USA
Huber USA is the American subsidiary for Peter Huber Kältemaschinenbau SE, the leading global manufacturer of high-precision temperature control solutions for laboratories, pilot plants and production processes. Our products offer environmentally friendly solutions for temperature control tasks from -125 to 425 °C. Our mission is to make your work easier and more efficient by offering high-precision temperature control technology of the highest quality. We are "Inspired by Temperature."
Booth Number: 317

HunterLab
Booth Number: 618

IKA Works, Inc.
IKA laboratory technology offers a wide range of innovative equipment for numerous applications in research and development. Market leaders trust in our proven technology for their mixing, heating, distilling and crushing applications. IKA has gained a leading position in the world market with its innovative magnetic stirrers, mixers, overhead stirrers, shakers, homogenizers, mills,

rotary evaporators, calorimeters, laboratory reactors and specially developed software for laboratory and analysis applications, as well as temperature control products such as circulators, baths and chillers.
Booth Number: 513

INFICON
INFICON is a leading provider of innovative instrumentation, critical sensor technologies, and advanced process control software that enhance productivity and quality in sophisticated industrial vacuum processes.
Booth Number: 807

Infometrix, Inc.
Infometrix was the first company in the field of machine learning applied to chemical processes with nearly 50 years of supplying systems to instrument manufacturers and end users. Chemometrics and Machine Learning are critical to interpreting output from any type of spectrometer, streamlining the handling of chromatographic data, and constructing inferentials from process sensor data. Our key product is Ai-Metrix which automates and optimizes any spectrometer. Pirouette and InStep enable custom data interpretations which can be integrated into any information system. LineUp is designed to eliminate retention time variation for any chromatographic source.
Booth Number: 706

Intertek Caleb Brett
Intertek Caleb Brett is the one company in the world that has a 140-year track record of performance, available globally 24/7, with the fastest turnaround time, providing the highest quality Inspection and Testing services to the petroleum, petrochemical and chemical industry every day with expertise, precision, pace and passion.
Booth Number: 203

Jaguar Texas Valves & Instruments
Jaguar TVI manufactures a full line of gas sampling and gas detection products from sampling cylinders, rupture discs, stabilized taps, 2 valve block & bleed manifolds, 5 valve manifolds, custom stainless steel braided teflon hose, quick connects, tube fittings, etc. Jaguar Texas Valves & Instruments, LLC., formerly Jaguar Instruments, Inc, was formed from Robertshaw's Acragage & Level AC divisions and added Weston Bimetallic Thermometers. This gives us a combined presence in the instrumentation business of over 200 years. We have one of the widest ranges of pressure and temperature measuring products in the business.
Booth Number: 119

JEOL USA, Inc
Since 1949, the JEOL legacy has been one of outstanding innovation in developing instruments used to advance scientific research and technology. JEOL has 70 years of expertise in the field of electron microscopy, more than 60 years in mass spectrometry and NMR spectroscopy, and more than 50 years of e-beam lithography leadership. JEOL, a world leader in Analytical and Imaging instrumentation, including mass spectrometers, NMRs and ESRs, electron microscopes, and semiconductor tools. JEOL USA, Inc., is a wholly owned subsidiary of JEOL, Ltd., Japan, and was incorporated in the United States in 1962. The company has 13 regional service centers that offer unlimited emergency service and support in the U.S. For more information about JEOL USA, Inc. or any JEOL products, visit www.jeolusa.com, or call 978-535-5900. JEOL is the leading global supplier of electron microscopes, ion beam instruments, mass spectrometers and NMR spectrometers.
Booth Number: 720

Kewaunee Scientific
Sales and service of Kewaunee Scientific Fume Hoods and casework/benches.
Booth Number: 319

KIN-TEK Analytical, Inc.
KIN-TEK Analytical, Inc. manufactures, sells, and supports calibration gas standard generators, custom configured calibration systems, and process calibration equipment for use in applications that require trace gas standards. We specialize in permeation devices that provide NIST traceable standards (ppm, ppb, pptr) for over 550 gases including many species unstable in static cylinder mixtures. Headquartered in La Marque, TX, our products are sold and supported worldwide. Visit www.kin-tek.com for more information.
Booth Number: 621

Koehler Instrument Company
US Manufacturer of petroleum testing equipment conforming to the latest ASTM, ISO, IP and related international specifications. Major product lines include viscosity, penetration, flash point, tribology, distillation instrumentation. Other products manufactured include oil test centrifuges, automatic distillation analyzer, automatic flocculation titrimeter, oxidation stability baths, cloud, pour, cold filter plugging, and freezing point equipment as well as automatic titration units. Our experienced staff can provide testing services and technical support both in-house and off site.
Booth Number: 105

Lab Products Inc.
Established in 1985 and located in Houston, TX, Lab Products is your source for quality chromatography supplies, environmental sample containers, and lab ware.
Booth Number: 414

LabLogic Systems Inc
LabLogic Systems, Inc. is a leading provider of instruments and software for measurement and analysis of radioisotopes used in pharmaceutical, academic, nuclear medicine and re-search laboratories. Our systems include radiochromatography detectors and software for HPLC and TLC, liquid scintillation and gamma counters, radiation monitors, and microplate readers.
Booth Number: 802

Labtopia
Labtopia's extensive knowledge of quality, regulatory, and operational requirements is incorporated into all of Labtopia's services including quality consulting, staffing, training, and Laboratory Information Management System (LIMS) implementation projects.
Booth Number: 803

labVMI-SCI
Lab distributor that has a focus on VMI Services.
Booth Number: 1205

LabWare, Inc
Transforming Oil & Gas Laboratory Operations LabWare's industry-leading LIMS and ELN solutions empower oil and gas laboratories with operational efficiency, complete data integrity, and regulatory compliance. From exploration to refining, our platform streamlines sample management automates workflows and ensures accurate results for EPA and ISO standards. With LabWare, you can gain real-time insights, enhance decision-making, and drive productivity.
Booth Number: 1015

Labworks LLC
Laboratory Information Management Provider since 1985.At Labworks, we create user-friendly and affordable solutions that empower businesses to thrive in the digital age. Labworks has pioneered the Laboratory Information Management Software (LIMS) industry since 1985. Our story began with a dream to revolutionize the digital landscape and provide cutting-edge solutions.
Booth Number: 1225

Lazar Scientific, Inc.
Lazar Scientific, Inc. provides quality, advanced analytical instrumentation for physical property characterization in the petroleum, renewable fuel, and biofuel industries. Our portfolio encompasses an expansive range of products for testing fuel quality and safety while adhering to strict method conformance. At Lazar Scientific, we understand that acquiring scientific instrumentation represents a significant investment in your future research and operations. Accordingly, our team goes beyond mere transactions to ensure each client receives comprehensive support, from selecting the ideal analyzer to ongoing maintenance and troubleshooting advice.
Booth Number: 506

LCGC/Spectroscopy
LCGC: Founded in 1983, LCGC International is the leading provider of digital and print content to the separation science market, enhancing the productivity, efficiency, and the overall value of separation techniques globally. With our commitment to editorial excellence, we have pioneered innovation across a broad portfolio of digital and print platforms. Spectroscopy: Founded in 1986,

Spectroscopy provides peer-reviewed articles, trusted advice from expert columnists, and the latest breaking developments to facilitate the advance of analytical spectroscopy and its use as an essential tool across a variety of applications and fields.
Booth Number: 225

LECO Corporation
LECO's combination of easy-to-use software and advanced instrumentation provide solutions for today's most demanding petroleum applications. Our range of elemental analyzers, calorimeters, and thermal analysis equipment offer fast and accurate results in a variety of fuel matrices. Our GC, GCxGC, GCMS, and high-resolution time-of-flight systems are ready to identify heteroatomic species, fuel markers, and other key constituents in complicated petroleum matrices. With training options, application and service support, maintenance plans, and a full range of certified reference materials and consumables, our support continues long after the sale. Visit our mobile laboratory on-site to discuss your application with our experts and learn how LECO can provide solutions for your laboratory!
Booth Number: 1207

LGC Standards
LGC Standards is a trusted global partner in quality assurance and research tools, supporting the analytical needs of laboratories in over 170 countries with high-quality reference materials, proficiency testing, and custom solutions. We use our expertise to produce to the highest standard, including ranges produced under ISO/IEC 17025 and accredited to ISO 17034. Our VHG® and Paragon Scientific product lines are purpose-built to meet the evolving needs of the petroleum and biofuels industry. The portfolio includes certified reference materials for critical testing parameters such as sulfur, metals, hydrocarbons, distillation, flash point, and more—helping labs maintain accuracy, meet regulatory requirements, and optimize performance. With decades of industry experience and a deep understanding of both technical and regulatory challenges, LGC Standards delivers responsive, tailored support to keep your lab ahead of the curve.
Booth Number: 1216

LK Industries Products, LLC
L-K Industries is a leading U.S. manufacturer of oil centrifuges and related petroleum sampling and measuring equipment for the crude oil/petroleum, petrochemical, hydrocarbon, agriculture, food processing and medical industries. Our most common equipment includes portable and laboratory oil centrifuges, sample heaters, glass centrifuge tubes, glass thermometers, glass hydrometers, gaging tapes and oil thiefs.
Booth Number: 1105

LNI Swissgas
LNI is a multinational specialist in the manufacturing of premium gas generators for on-site hydrogen, zero air and nitrogen gas production, premium gas mixers and premium gas calibrators. LNI is ISO 9001 and ISO 14001 certified. To ensure the highest quality, LNI has received ISO 17025 accreditation of its Gas Flow Standard laboratory.
Booth Number: 806

Lovibond
At Lovibond®, we look out for the small details that make a big difference in color measurement. From easy-to-use, menu-guided instruments to sample handling that reduces variability, our goal is to simplify your workflow and improve consistency. With decades of experience in color science, we offer reliable solutions for the petroleum, chemical, and edible oil industries - while making sure your product meets specifications with confidence.
Booth Number: 323

Malvern Panalytical
Malvern Panalytical, Micromeritics, and SciAps form a powerful combination, delivering advanced materials analysis. Our technologies reveal how particle size, mineralogy, and elemental composition influence the processability of oils, fuels, polymers, and catalysts. With reliable, high-quality petrochemical insights—including elemental, morphological, mineralogical, and structural data—we help improve wellsite efficiency and support production of in-spec products. United, our expertise drives discovery and performance across industry, academia, and government research. Visit Malvern Panalytical at booth #1107 to see how we advance precision in petrochemical analysis.
Booth Number: 1107

Mandel Scientific Inc.
Mandel Scientific Inc. is an American provisioner of scientific instrumentation, reagents, consumables, and services and the exclusive distributor for Nittoseiko Analytech Co. in the United States. Nittoseiko Analytech Co., Inc were formally known as Mitsubishi Chemical Analytech Co., Ltd. who responded to the diverse needs of their customers with proprietary, cutting-edge technologies and have provided a wide range of analytical measuring instruments for technology and services with applications in the petrochemical, energy, environmental, pharmaceutical, semiconductor, and plastic industries.
Booth Number: 1104

Metaspec / Pacific Sensor
Metaspec / Pacific Sensor manufactures petroleum test specimens and corrosion coupons right here in Texas. We manufacture specimens for all petroleum-related laboratory tests, including D3241, D665, D130, D2272 and many others. We also provide corrosion test coupons for internal corrosion monitoring in pipelines and process units under the Pacific Sensor brand.
Booth Number: 125

Metrohm
From routine moisture analysis to sophisticated anion and cation quantification, Metrohm offers a complete line of analytical laboratory and process systems for titration, ion chromatography, electrochemistry, and spectroscopy. Metrohm offers a complete line of analytical laboratory and process systems for titration, ion chromatography, electrochemistry and spectroscopy. From routine moisture analysis to sophisticated anion and cation quantification, we are ready to help you develop your method and configure the optimum system. Move your analysis from the lab to the production line with our dedicated process analyzers.
Booth Number: 703

Mettler Toledo
METTLER TOLEDO is a global leader in precision instruments and services. We are renowned for innovation and quality across laboratory, process analytics, industrial, product inspection, and retailing applications. Our sales and service network is one of the most extensive in the industry. Our products are sold in more than 140 countries, and we have a direct presence in approximately 40 countries. For more information, please visit www.mt.com.
Booth Number: 915

Midland Scientific
Midland Scientific, Inc. is a woman-owned, full-line distributor of laboratory products such as chemicals, instrumentation, general lab supplies, glassware, lab consumables, media, measurement equipment, plasticware, reagents, solutions, and much more.
Booth Number: 919

Milestone Inc
Today’s labs are challenged to process more samples at lower detection levels with fewer available resources. Often the limitations of the existing sample preparation approach creates a “bottleneck” in productivity. At Milestone our full suite of Microwave Sample Prep productivity tools are backed by over 50 patents and 25 years of industry expertise to break these bottlenecks by providing safe, reliable and flexible platforms to enhance your productivity. Over 25,000 customers worldwide look to Milestone to improve their metals digestions, organic extractions, mercury analysis or synthetic chemistry processes. We will partner with you to meet your challenges now, and well into the future.
Booth Number: 922

MilliporeSigma
MilliporeSigma is the U.S. and Canada Life Science business of Merck KGaA, Darmstadt, Germany. With 19,000 employees and 72 manufacturing sites worldwide, MilliporeSigma’s portfolio spans more than 300,000 products enabling scientific discovery and analysis. Extensive expertise in laboratory water purification, separations, reagents, solvents, and reference materials enables MilliporeSigma to provide advancements in chromatography (including HPLC, TLC, GC), titration, and point of use testing for industrial research, testing, and industrial hygiene monitoring.
Booth Number: 209

Pace Analytical Life Sciences
Pace® Life Sciences provides a full suite of contract CMC development, clinical trials materials manufacturing, regulatory compliance, consulting, analytical instrument services, calibrations, lab relocations and facility/cleanroom support services to the pharmaceutical, biotech, life sciences and other industries. Our experienced, highly trained industry experts, and our investment in state-of-the-art development and manufacturing facilities emphasize our commitment to efficiently advancing client programs through the clinic to commercialization. At Pace, we are dedicated to delivering the best and most reliable services with positive customer experiences.
Booth Number: 1026

Parker Hannifin
Parker Gas Generators are the gold standard for onsite gas generation in today's laboratory. They provide a continuous supply of laboratory grade gas on-demand and cost benefits you just won't get using gas cylinders. Stop by our booth to see new and improved hydrogen and zero air gas generators for gas chromatography-Parker ChromGas™ H2F and ZAG Series. They boast a stackable design with advanced controls that feature a new user interface panel that elevates user-friendliness and performance.
Booth Number: 327

Peak Scientific
PEAK Scientific is a leading nitrogen generator manufacturer and global expert in high-performance nitrogen gas generator and hydrogen gas generator systems for LC-MS, GC, GC-MS and other applications used in laboratories around the world. Putting our customers first is at the heart of everything we do which is why we help you lower your operational costs, reduce your environmental impact and remove the uncertainty and inconvenience of traditional recurring gas supply with an in-house gas generation solution from PEAK Scientific.
Booth Number: 1011

Performance Distillation Solutions
Our flagship product, Pro-Pak®, is a high-efficiency random packing designed for use in distillation. Effective in both atmospheric and low-pressure conditions, our packing meets stringent international standards, such as ASTM D2892, for the distillation of crude petroleum. PDS is also an exclusive distributor of ILUDEST turnkey thermal process systems which includes the D1160, D2892, D5236, and custom distillation units.
Booth Number: 1108

PerkinElmer U.S. LLC.
PerkinElmer is an industry leader in lubricant testing solutions, providing laboratories globally with the analytical instruments, accessories, and services they need to meet their most complex challenges. Our solutions accelerate scientists' ability to perform wear and additive metals analysis, lubricant chemistry, or contamination testing and enable laboratories to increase throughput ad accelerate results.
Booth Number: 127

Perma Pure
Perma Pure is a leading manufacturer of gas conditioning products including dryers, humidifiers, filters, coalescers, specialty scrubbers and complete sampling systems. Perma Pure solutions dry, humidify, and condition gases to improve accuracy of measurement and reduce gas analyzer maintenance in applications like ambient air monitoring, continuous emissions monitoring, particle analysis, and laboratory analysis. We also support processes such as gas generation and fuel cell humidification. Perma Pure offers complete systems as well as individual components for incorporation into other conditioning systems.
Booth Number: 902

Petro Industry News
PIN is a global printed/digital publication featuring the latest news, events and developments concerning analytical instrumentation technology for fuels, lubricants and petrochemicals.
Booth Number: 427

Photovolt Instruments Inc.
Equipment manufacturing company that specializes in quality control lab instrumentation and consumables.
Booth Number: 325

Pittcon
Pittcon isn't just a conference and exposition; it's a nexus of collaboration, a space where the boundaries between industries blur, and the possibilities for connection are limitless. Here, you're not confined to a singular niche; you're part of a community where analytical chemists from all walks of professional life converge.
Booth Number: 1204

Precise Standards & Solutions, Inc.
Precise Standards & Solutions, Inc, (PSS) is an ISO 17025 and ISO 9001 accredited Custom Calibration Standards Manufacturer. With over a century of combined experience, our knowledge and innovation allow us to provide repeatable and accurate products in one of the fastest industry turn around times! We are a global supplier of ASTM, ISO, UOP and other consensus body standards for Gases, LPG's and Liquids (ampoules, bottles or cylinders). Some of our standards include: Sulfur Speciation, Simulated Distillations, Nat Gas Blends, Purity Blends, and Total Elementals.
Booth Number: 519

Precision Analyzer Company
PAC, Precision Analyzer Company, is a leading global manufacturer of advanced analytical instruments for the aviation, renewable fuel, process, petrochemical, hydrocarbon, packaging, pharmaceutical, and medical device testing industries. Our portfolio includes the world's most respected brands of laboratory and process analyzers: AC Analytical Controls, Advanced Sensors, Alcor, Antek, Cambridge Viscosity, Herzog, Icon Scientific, ISL, PetroSpec, Phase Technology, and Uson.
Booth Number: 111

PREMIER Lab Supply, Inc.
PREMIER Lab Supply is a GLOBAL manufacturer and distributor of XRF sample preparation products and services for over 25 years. PREMIER offers a robust line of XRF sample cups and thin film products, including innovative and patented CEMBLES®, CapX® and FilmVelopes® for liquid and powder testing as well as aluminum cups and binders for press pellet applications. A full line of both new and refabricated platinum and fusion labware is available for XRF and ICP sample preparation. PREMIER's platinum refabrication service can refine your existing labware back to brand new condition. PREMIER provides Gas & Electric Fusion Machines for XRF and ICP dissolutions and Manual and Automated Presses for XRF Press Pellet Applications. PREMIER Lab Supply is committed to ensuring you achieve accurate and reproducible results, all at value-based pricing. We are XRF Sample Preparation Specialists®.
Booth Number: 811

Process Insights
Process Insights provides real-time gas and water analysis solutions for increased efficiency, reduced waste, and improved product quality. Our analytical solutions contribute to enhanced safety by detecting potentially hazardous gases preventing accidents, and protecting both personnel and equipment. We facilitate regulatory compliance by helping companies meet emissions monitoring and control requirements, ensuring adherence to environmental regulations and avoiding penalties.
Booth Number: 910

Purge Solutions Inc
purge/pressurization systems
Booth Number: 607

Quality Environmental Containers
QEC containers are prepared to meet the exacting standards of environmental labs and will provide exceptional performance in any laboratory application. Visit https://www.qecusa.com to browse our products, including: Qromix™ chromatography vials, closures, septa; Custom-Preserved™ containers prepared for your needs, including all UCMR5 methods; Q-Seal™ & UltraLab™ containers for PFAS sampling; soil sampling kits and tools; plus caps, closures, labels, custody seals, and air sampling bags.
Booth Number: 1123

Quality Institute of America
QUALITY INSTITUTE OF AMERICA — ISO CONSULTATION, QISS-QMS & QISS-LAB Since 1994, QIA has helped companies with their management systems through our range of QISS software that automates systems such as ISO 9001, ISO 17025, ISO 45001, and ISO 14001. We also help companies by providing consulting services to ensure compliance with various ISO standards. QISS-QMS Software assists companies implementing the finest Management System possible. Our software provides expert assistance to develop, implement, audit, improve, and operate a management system with the help of our proprietary WORK-FLOW software QISS-QMS. QISS-LAB Software to help run your Laboratory and Inspections Services. Retention o
Booth Number: 1102

Quantum Analytics
Quantum Analytics helps laboratories maximize performance and minimize cost by offering high-quality refurbished analytical instruments, flexible in-house financing, and multivendor service contracts. We partner with startups, established labs, and contract testing organizations to deliver turnkey solutions that are more agile and cost-effective than traditional OEM models. We specialize in Frontier pyrolysis, Markes thermal desorption, and refurbished Agilent chromatography and mass spectrometry solutions. Our deep industry expertise, transparent pricing, and responsive support make us the go-to partner for labs that need results – not red tape.
Booth Number: 909

Quveon
Quveon is a manufacturer of Karl Fischer reagents, solvents and water standards. We provide the full range of high quality products for moisture content analysis with custom capabilities and dedicated technical support.
Booth Number: 1021

Radom Instruments, LLC
Radom Instruments, LLC presents the world's smallest ICP-OES instrument. The MICAP-OES 1000 designed for the modern laboratory is the smallest, most cost effective nitrogen plasma OES system in the world. No Argon. No Chiller. No combustible gases. Since MICAP is the most compact, easy-to-use and install trace element analysis system on the market, we focus heavily on the mining/minerals, fluid analysis, wear metal analysis, surface finishing and Food sectors. Analytically, we are able to run 100% organic solvents without carbon build up, high total dissolved solids solutions with high matrix tolerance and auto peak identification features to deliver a intuitive system.
Booth Number: 927

Ramin Corporation
Ramin' Corporation has produced and distributed environmental & petroleum glassware, laboratory & scientific apparatus, custom glass designs, precision machined metals and plastics since 1984. Our facility manufactures ISO, ASTM, and OEM products for petroleum testing and specialty applications. Custom design, calibration, and certification services are available.
Booth Number: 608

Red Ball Oxygen
Red Ball Oxygen - Red Ball Technical Gas Services, High Purity Gases, Certified Gases, EPA Protocols, IPG Grade Gases Red Ball TGS is dedicated to providing our customers the highest quality pure, mixed, and custom blended gases available with some of the fastest lead times in the industry. We operate two specialty gas manufacturing facilities. An ISO 17025 Accredited Specialty Gas Laboratory in Shreveport, LA and a Hydrocarbon Specialty Gas Laboratory in Houston, TX. Red Ball TGS offers a complete turn-key solution to all of your gas requirements: including production, certification, delivery, and inventory management.
Booth Number: 117

Restek Corporation
Chromatography is what Restek does, and chromatography is who we are. We are an independent, international, and diverse team of employee-owners not bound to a specific brand of instrument or geographic region. We live and breathe phase chemistry, peak separations, resolution, and inertness because while chromatography may be a necessary tool in your business, it is our business. And it is a business that we directly serve across 100+ countries and six continents with unrivaled Plus 1 service, applications, and expertise. From LC and GC columns to sample preparation, reference standards to accessories, Restek is your first and best choice for chromatography. Restek is Pure Chromatography.
Booth Number: 303

Rigaku Americas
The Rigaku group of companies are world leaders in the fields of X-ray Fluorescence (XRF), X-ray Diffraction (XRD), X-ray Microscopy (XRM), and other scientific instruments and analytical techniques for industry and research. X-ray instruments enable elemental and chemical analysis for process and quality control as well as research and development, non-destructive materials characterization of deposits to determine phase identification and quantification, and high-resolution imaging among other measurements. Analysis is performed quickly and accurately using techniques such as wavelength dispersive (WDXRF) and energy dispersive (EDXRF) XRF spectrometry and powder diffraction.
Booth Number: 100

Rofa Laboratory & Process Analyzer GmbH
ROFA supports petroleum and fuel analysis laboratories with its expertise since 1958. In cooperation with the oil and automotive industries, ROFA develops user-friendly, modern devices and solutions. ROFA supplies and supports products for professionals in reference quality worldwide.
Booth Number: 218

RohmTek
RohmTek is an analytical lab for material characterization and provider of analytical rental equipment.
Booth Number: 916

Rudolph Research Analytical
Rudolph Research Analytical, a leading, US based manufacturer of high accuracy, bench-top Density Meters, Refractometers, and Sample Automation instrumentation for the Petroleum and Chemical Industry. Density Meters comply with ASTM D4052, D5002, ISO 12185, D5931 for determination of API Gravity, Density and Specific Gravity. Rudolph also manufactures Refractometers compliant to ASTM D1747 and D1218. Systems are available with automation and heated sample loading. Rudolph has also introduced revolutionary new Portable Density Meters and Refractometers. Featuring electronic, automatic sample temperature control users can now benefit from greater stability and accuracy Everywhere They Measure.
Booth Number: 521

Savant Group
The Savant Group is a consortium of internationally recognized companies providing products and services to the lubrication, transportation, manufacturing, aerospace, and energy industries.
Booth Number: 918

Saybolt LP
We service the energy industry with laboratory analyses, independent field inspections as well as monitoring and verification programs.
Booth Number: 200

SCIEX
Booth Number: 227

Scion Instruments
SCION Instruments designs, develops, supplies and supports GC, GC-MS, LC and Compass CDS (chromatography data system) product lines. Built on the history of Chrompack and Varian in GC and GC-MS, SCION Instruments was acquired by the Techcomp group in 2014. SCION Instruments maintains a global infrastructure to support sales around the world. As well as providing support for SCION Instruments customers, there is also service and support available for users of legacy Varian systems.
Booth Number: 310

Selerity Technologies, Inc
Founded in 1998, Selerity Technologies has become the market leader in Supercritical Fluid Chromatography and continues to grow by adhering to its basic business concept of understanding customers' expectations, developing customer loyalty and continued development of a well-executed business strategy. Selerity is committed to increasing the analytical community's productivity and quality of results utilizing chromatography in the most cost-effective manner. We strive to exceed customer expectations for product quality and value. We provide our customers a competitive advantage by building long-term relationships through personalized contact and enhanced customer service and support.
Booth Number: 914

Separation Systems, Inc.
Separation Systems offers GC and GC-MS based analysis systems, specialized software, consumables, standards, reference material and services for common petroleum refining, biofuels and petrochemical applications. It is the original manufacturer of SimDis Expert and Hydrocarbon Expert, two of the most widely used software applications used in refineries around the world. While most of our products are designed to meet the international standard method requirements (ex. ASTM, EN, ISO), we can also offer products for special requirements including custom software. Separation Systems, Inc. established in 1981 is small minority owned business and located in Gulf Breeze, FL USA.
Booth Number: 527

SepSolve Analytical
SepSolve Analytical provides advanced analytical platforms for separation scientists using GC and GC×GC. A highlight of their product portfolio for petrochemical analyses is the INSIGHT® range of flow and thermal modulators alongside ChromSpace® software for robust GC×GC separations and powerful data mining. Other products include the BenchTOF2™ mass spectrometer which provides enhanced confidence in identification in both GC and GC×GC applications through its excellent spectral quality, improved mass accuracy, and Tandem Ionisation® technology. Together, these tools enable you to discover more about your sample, and to deliver higher throughput for both research and routine applications.
Booth Number: 1126

SGS North America Inc.
SGS provides a wide range of independent laboratory testing and cargo inspection services and expertise on a 24/7/365 basis. SGS has state-of-the-art laboratories & offices across the Gulf Coast region, the USA, and the world. SGS supports quality testing, research, troubleshooting, back-up, and other testing needs and requirements. Testing standards include ASTM, ISO, IP, GPA, AASHTO, and many others.
Booth Number: 211

Shamrock Glass CO
Vials, caps and septa for instruments.
Booth Number: 123

Shimadzu Scientific Instr., Inc.
Shimadzu offers a wide-ranging portfolio of analytical and testing instrumentation for a broad range of applications. Products include chromatographs (UHPLC, SFC, GC); mass spectrometers (GC-MS/MS, LC-MS/MS, MALDI-TOF); spectrophotometers (FT-IR, Fluorescence, UV-VIS-NIR); atomic spectrometers (AA, ICP-MS); X-ray spectrometers; thermal analyzers; TOC analyzers; informatics systems; particle size analyzers; and materials testers.
Booth Number: 403

SilcoTek Corporation
SilcoTek is the worldwide leader in inert surface coating technology. With their patented chemical vapor deposition (CVD) coating processes, SilcoTek invents and applies coatings like their SilcoNert® and Dursan® technologies to chemical sampling and analysis components to increase their reliability, extend their lifetime, and improve overall performance. These ultra-thin, silica-like coatings can be applied to a variety of surface materials while penetrating complex geometries with ease. For more information, visit www.SilcoTek.com to learn more about how SilcoTek's game-changing coating technology can help your application.
Booth Number: 121

Specac Ltd
Specac is a global spectroscopy accessory and sample preparation business with decades of experience in molecular and atomic spectroscopies, including FTIR, NIR, UV-Vis, XRF, and Raman. Our accessories support spectroscopic analysis of materials, chemicals, catalysts, pharmaceuticals, and food stuffs across a wide range of industries, including academia. We also work with other manufacturers on custom solutions for their spectroscopy product ranges. Visit us on Booth 223 to learn more. See you there!
Booth Number: 223

Specialty Underwriters, LLC
Specialty Underwriters, LLC is an equipment maintenance management company based in Oak Creek, WI founded in 1985. We are able to save customers 15-35% off of their current service contracts, while maintaining their current vendor. We work with Biotech companies, government agencies, universities and research labs all across the country.
Booth Number: 1203

Spectrum Chemical Mfg. Corp.
Spectrum Chemical has been providing chemical solutions to our customers in the pharma, biopharma, food technology and personal care industries for over 50 years. Spectrum offers over 45,000 chemicals and 3,900 bulk items, including over 1,200 USP-NF-FCC-BP-EP-JP grade chemicals, as well as bioCERTIFIED™ products for biopharma. A CofA is provided for every lot of chemicals which undergoes in-house testing in cGMP-compliant, FDA-registered and inspected United States-based facilities. Our extensive scientific documentation also provides batch traceability, supply chain transparency and change control. We also distribute thousands of laboratory supplies and equipment items.
Booth Number: 804

Spectrum Quality Standards
Spectrum Quality Standards Certified, Verified and Analytically Traceable Standards to the Petrochemical Industry. We are ISO 9001:2015 Registered and A2LA 17034 Accredited.
Booth Number: 324

StanCo Scientific
With over 30 years of experience, we are a trusted source of service including calibration, preventative maintenance, repair and sales of physical property testing instruments including flash point, viscosity, cloud, pour and freezing points, distillation, corrosion properties, oxidation stability, among others. We are a leader in manufacturing alternative digital electronics for the legacy engine. Our innovations have catapulted the engine industry into the 21st Century. We are committed to providing quality instrumentation, analytical solutions and reliable service to our customers.
Booth Number: 610

TA Instruments
TA Instruments is the world leader in manufacturing industry-leading systems for thermal analysis, rheology, microcalorimetry and mechanical analysis. We offer innovative and reliable instruments that help scientists in top laboratories test the physical properties of their materials. Our instruments contribute to leading discoveries in medicine, materials science, electronics and other areas of science devoted to improving our world. We pride ourselves on the excellence of our instrumentation as well as the technical competence and professionalism of our sales force.
Booth Number: 1221

TE Instruments USA
Trace Elemental Instruments designs, develops, manufactures, markets, sells and supports a range of laboratory equipment for industrial, petrochemical and environmental applications across the world. We offer a full range of combustion analyzers and accessories, dedicated to handle all sorts of samples according to ASTM methods and other international standards. Besides combustion analyzers, a variety of complementary sample introduction & pre-treatment systems are part of our offering. Our key markets include; Industrial (TN/TS/TX/C-IC) and Environmental (TOC/AOX/TOX/EOX/POX). We look forward to working with you and providing you with the best solutions available in the combustion market.
Booth Number: 603

TECH 2000
Over the past quarter of a century, TECH 2000 has been recognized as the trailblazer in scientific staffing. Based upon a growing demand for skilled personnel, TECH 2000 set out on its journey to support the scientific laboratory needs of industry. Founded in the Gulf Coast and with offices in Texas and Louisiana, TECH 2000 searches for and identifies individuals with laboratory, scientific, and STEM backgrounds who are able to support our clients' staffing requirements.
Booth Number: 216

Teledyne LABS
Teledyne LABS consolidates CETAC, Hanson, ISCO chromatography and pumps, Leeman Labs and Tekmar for Chromatography, GC Sample Prep, Elemental Analysis, Automated Liquid Handling, Pumping and Dissolution, Diffusion, Physical Tablet Testing. Teledyne LABS enhances the visibility for our brands, products, and services, aiding customers in finding solutions that meet their current and future needs.
Booth Number: 207

Texas Scientific Products
TSP is a respected manufacturer, distributor, and supplier of a whole array of consumables & sample introduction systems for ICP & ICPMS including Patented nebulizers, spray chambers, torches, & pump tubing. We provide TSP brands as well as the essential brands for all major manufacturers of ICP-MS & ICP-OES, AA, XRF & Viscometers. We offer inorganic & organic standards, vials & probes compatible with autosamplers. Sample preparation equipment and Autosamplers.
Booth Number: 616

Thermal Scientific
Although we distribute laboratory supplies, chemicals, instruments, equipment, and more, we are truly in the relationship business. Founded in Odessa in 1962, Thermal Scientific, Inc. is a veteran-operated, third-generation, family-owned company with five branches and over 50,000 sq ft of warehouse space throughout Texas—Amarillo, Beaumont, Corpus Christi, DFW, and Odessa. We're proud to be the oldest and largest family-owned, Texas distributor in our industry. For more information, visit www.thermalscientific.com.
Booth Number: 107

Thermo Fisher Scientific
As the world leader in serving science, Thermo Fisher Scientific offers services and products that help customers around the globe in laboratories and clinics, on production lines and in the field. Our Mission is to enable our customers to make the world healthier, cleaner and safer. Whether they are improving life for patients, protecting our global climate or keeping people safe, our customers look to Thermo Fisher Scientific for innovative solutions, services, products and instruments. Our diverse offerings help all industries, including PetroChem, Refining, O&G, and Environmental sciences, accelerate innovation and enhance productivity.
Booth Number: 1014

UCT LLC
UCT is a vertically integrated and leading manufacturer of high-quality specialty chemicals, including silanes, silicones, and reactive and non-reactive fluids, which include catalysts, modifiers, coatings, and coupling agents. UCT also manufactures the highest quality sample preparation products and U/HPLC columns. Our sample prep product line includes Solid-Phase Extraction (SPE) cartridges, EPA method-specific SPE cartridges, Selectra® U/HPLC and, SelectraCore® core-shell LC columns, and accessories. UCT is excited to highlight our Hydraflow® 4-channel cartridge manifold, designed to optimize and streamline sample processing workflows. Engineered with precision for high-volume needs, the Hydraflow® is ideal for the refinery industry, featuring effortless switching between organic and aqueous waste channels and precise flow rate control. UCT combines these superior products with our commitment to world-class technical support, ensuring you're never alone and always reassured.
Booth Number: 305

Verder Scientific, Inc
Verder Scientific is composed of the leading laboratory equipment companies Retsch, Erweka, Carbolite Gero, Microtrac, QATM and ELTRA, active in sample preparation and subsequent analysis for quality control as well as research & development purposes. The well-known Verder Scientific companies have served research institutions, analytical laboratories as well as manufacturing companies in quality control and process applications for many decades. The company manufactures instrumentation for sample preparation, particle characterization, elemental analysis, heat treatment, pharmaceutical testing and materialography equipment, including equipment for hardness testing of solid materials.
Booth Number: 116

VICI Valco Instruments
For more than 50 years, the VICI companies have been a leading designer and manufacturer of components for precision analytical, biomedical, and biocompatible instrumentation. Companies under the VICI umbrella serve five continents with a diverse product line that includes liquid and gas valves, sample injectors and selectors, pneumatic and electric actuators, tubing, syringes, temperature controllers, gas generators, gas purifiers, and GC detectors. With over 150 state-of-the-art CNC machines, our instruments and components are manufactured to exacting standards.
Booth Number: 104

VUV Analytics, Inc.
VUV Analytics is the leader in vacuum ultraviolet (VUV) detector technology for gas chromatography and automated analyzer applications. Virtually every compound absorbs strongly in the vacuum ultraviolet spectrum with unique spectral signatures, providing a new dimension of chemical analysis. Learn more at www.vuvanalytics.com or contact VUV Analytics directly at (512)333-0860.
Booth Number: 320

Wasson-ECE Instrumentation
Wasson has been designing, building and applicating lab and process GCs internationally for almost 40 years. Our turn-key analyzers cater to the needs of the hydrocarbon processing industry and can be found in more than 60 countries around the world. Customers such as CPChem/Chevron, ExxonMobil, BP, Phillips 66, UOP and Dow rely on our expertise and the GUARANTEED RESULTS our systems provide. We have the experience. We have the innovation, We have your GC solution. Let's get to work!
Booth Number: 1018

Waters Corp
Waters is a leader in developing analytical testing solutions using chromatography and mass spectrometry technologies. Waters total analytical workflow solutions integrate sample preparation, column chemistries, analytical instrumentation and data management software to enable laboratories to identify and quantify diverse chemical compounds, meet compliance requirements, decrease operational costs, increase productivity, and, most importantly, help ensure public safety.
Booth Number: 1223

Windward Analytical
Distributors of Agilent GCs and other products configured by DaVinci Laboratory Solutions, F-DGS Hydrogen, Nitrogen and Zero Air Generators and Liquid Nitrogen Generators plus many more instruments and accessories.
Booth Number: 924

XOS
XOS is a leader in elemental analysis, offering solutions that improve public safety and efficiency in petroleum, renewables, plastic recycling, maritime, and other industries. XOS lab and process analyzers offer unrivaled precision at the push of a button. XOS advanced optics and OEM subsystems can increase precision, speed, and spatial resolution while decreasing the instrument's size, complexity, and cost. XOS: better analysis counts.
Booth Number: 721

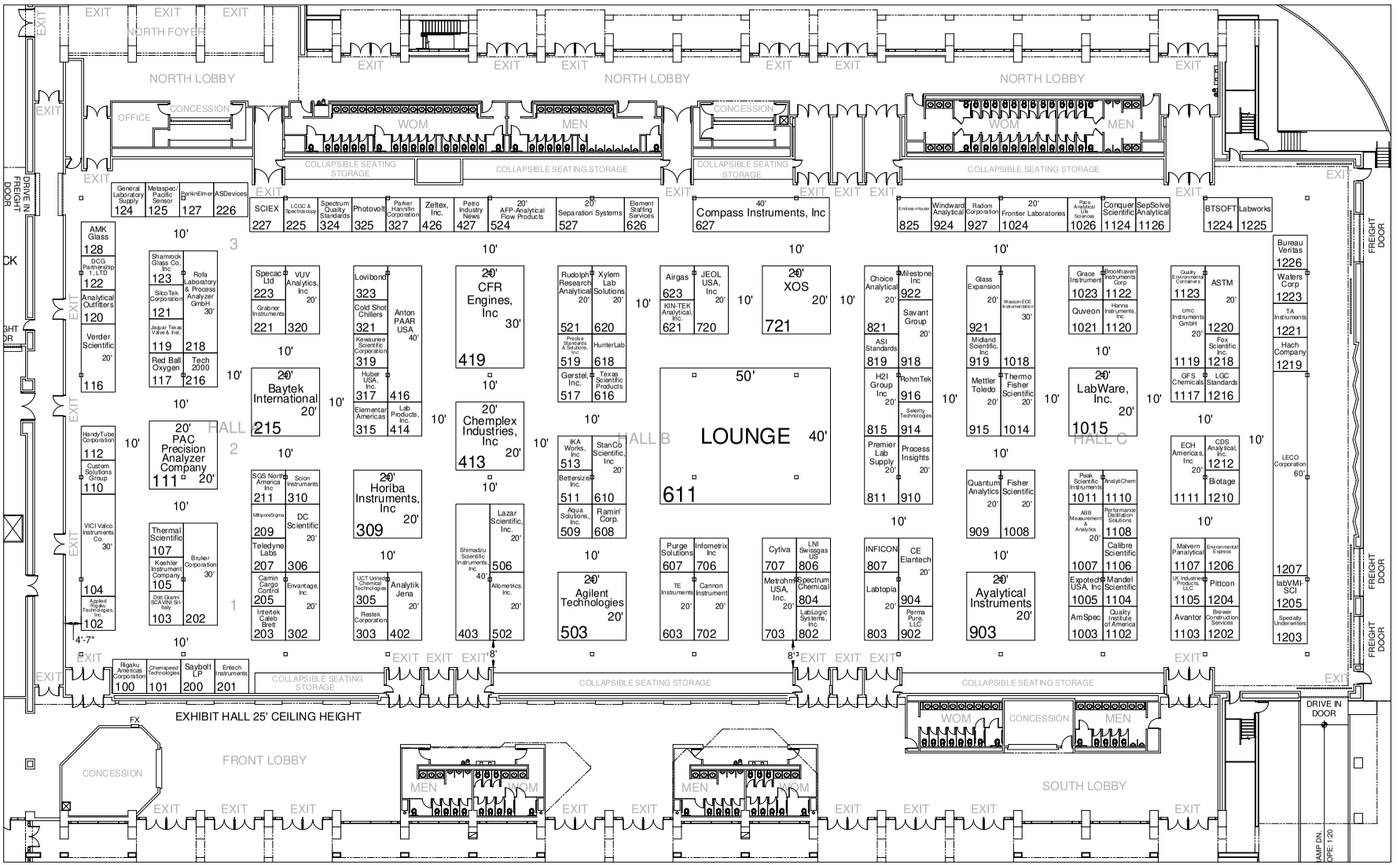
Xylem
Lab Solutions, a core business unit of Xylem Analytics, combines seven leading brands and over a dozen trusted techniques to solve your toughest laboratory workflow challenges. With 400+ years of expertise, we serve key markets including Food & Beverages, Pharmaceuticals & Life Sciences, Environmental & Municipal, and Chemical & Energy. From benchtop instruments to complete workflows, we deliver high-quality, reliable results. Whether you're analyzing concentration, purity, or composition in raw, synthetic, or processed chemicals, Lab Solutions has you covered. The tools you trust—unified in one smart portfolio. Built for your lab, your success. Let's solve challenges—together.
Booth Number: 620

Zeltex LLC
Since 1992, Zeltex has offered the premier line of portable NIR analyzers for fuel, grain and food. Headquartered in Hagerstown, Maryland, Zeltex has supplied thousands of Customers with the tools needed to succeed in today's competitive markets. From Government agencies, research facilities, fuel producers, universities, farms and manufacturers, we pride ourselves in our personal approach and customized solutions for each and everyone of our valued customers.
Booth Number: 426

GULF COAST CONF OCT 2025

10/01/25 - 10/30/25

MOODY GARDENS HOTEL & CC - EXHIBIT HALLS A-C - GALVESTON, TX



REVISION
Date: 8/26/2025
By: LYDIA GONZALES

BOOTH COUNT

Inventory as of 8/26/2025

100% - 24,100 SqFt Rented
0% - 0 SqFt Available

Dimension	Size	Qty	SqFt
10' x 10'	100	107	10,700
10' x 20'	200	33	6,600
10' x 30'	300	4	1,200
10' x 40'	400	3	1,200
20' x 20'	400	8	3,200
10' x 60'	600	1	600
20' x 30'	600	1	600
	Totals:	157	24,100

BLDG. LEGEND:

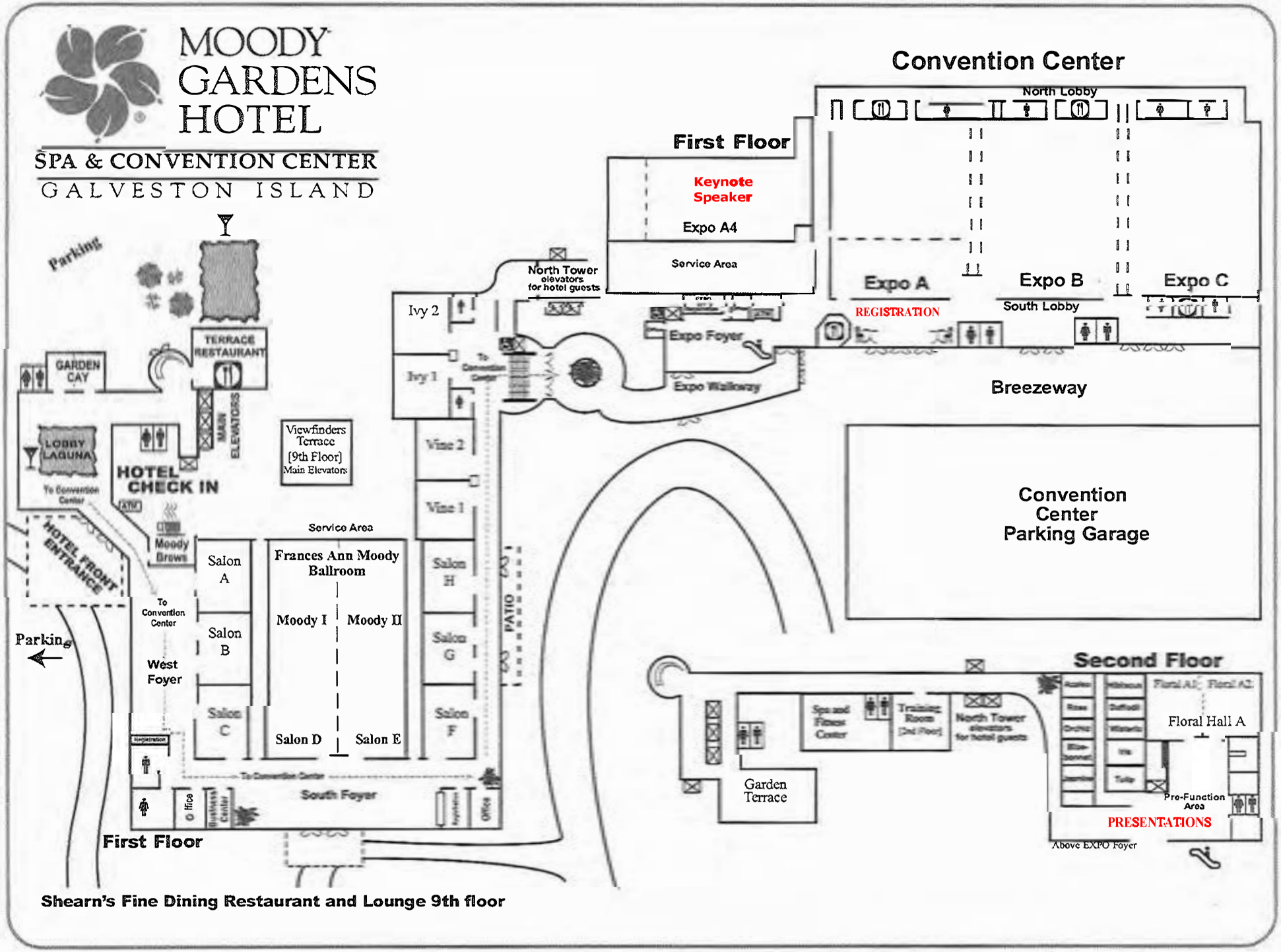
DRAWING INFO

Passport Line Item Number:
#14899100
Facility:
MOODY GARDENS HOTEL & CC

Facility Location:
EXHIBIT HALLS A-C
City & State:
GALVESTON, TX
Scale: CUSTOM
Project #: ----
Acct. Sales: ----
Acct. Mgmt.: ----
Started: 8/21/2025
Started By: LYDIA GONZALES
Prod. Branch: HOUSTON

Freeman

File Path: C:_Vault Designs_Projects\GGulf Coast Conf\GCC2510\Event Floor Plans\GCC25.dwg | Tab Name: L14899100 FP


MOODY GARDENS HOTEL
SPA & CONVENTION CENTER
GALVESTON ISLAND
Convention Center
First Floor
Keynote Speaker
Expo A4
Service Area
North Lobby
North Tower elevators for hotel guests
Expo A
Expo B
Expo C
REGISTRATION
South Lobby
Expo Foyer
Expo Walkway
Breezeway
Ivy 2
Ivy 1
Vine 2
Vine 1
Parking
TERRACE RESTAURANT
GARDEN CAY
LOBBY LAGUNA
MAIN ELEVATORS
HOTEL CHECK IN
To Convention Center
Viewfinders Terrace [9th Floor] Main Elevators
HOTEL FRONT ENTRANCE
Moody Brews
Service Area
Salon A
Salon B
Salon C
Frances Ann Moody Ballroom
Moody I
Moody II
Salon D
Salon E
Salon H
Salon G
Salon F
PATIO
To Convention Center
West Foyer
Parking
South Foyer
Office
Business Center
Registration
First Floor
Convention Center Parking Garage
Second Floor
Spa and Fitness Center
Training Room [2nd Floor]
North Tower elevators for hotel guests
Garden Terrace
Floral Hall A
Pre-Function Area
PRESENTATIONS
Above EXPO Foyer
Shearn's Fine Dining Restaurant and Lounge 9th floor

SHIMADZU
Excellence in Science

Booth 403

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50 years OF INNOVATION

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Sample Cups

Our product line contains over 40 different styles of sample cups to fit almost all XRF instruments.

Thin-Films

Our Thin-Films are available in various sizes and formats including our exclusive Etnom® Thin-Film.

Sample Preparation Products also include:

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- Grinding Mills, Vials and Ball Pestles
- Additives for Grinding and Pelletizing
- Standards

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